DOCUMENT RESUME

ED 226 012 TM 820 880

AUTHOR Jones, Earl; Jones, Eleanor
TITLE Redwood City School District ESEA Title VII Bilingual Project LEARN. 1981-1982 Annual and Longitudinal Report.
INSTITUTION Development Associates, Inc., San Francisco, Calif.
SPONS AGENCY Redwood City School District, Calif.
PUB DATE Sep 82
NOTE 69p.
PUB TYPE Reports - Evaluative/Feasibility (142)

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS Academic Achievement; Basic Skills; Behavioral Objectives; *Bilingual Education Programs; Bilingual Teachers; Elementary Education; *English (Second Language); *Integrated Activities; Limited English Speaking; Needs Assessment; Program Development; Program Effectiveness; *Program Evaluation; Program Implementation; School Districts; *Spanish Speaking
IDENTIFIERS Comprehensive Tests of Basic Skills; *Elementary Secondary Education Act Title VII; *Redwood City School District CA

ABSTRACT

The Redwood City School District Elementary Secondary Education Act (ESEA) Title VII Bilingual Education Program offered instruction in English and Spanish through an integrated approach, to take advantage of students' strengths and help them progress as rapidly as possible in concept development while they acquire English proficiency. The limited English proficiency (LEP) students were identified first through the Home Language Survey, and those who spoke Spanish were administered the English and Spanish version of the Language Assessment Scales in 1981. Those classified as limited or non-English speaking were enrolled in the program with parental consent. Fluent English-speaking pupils were recruited to provide a non-segregated envioronment. The Comprehensive Tests of Basic Skills English and Spanish examinations were administered. Project Leyendo, Escribiendo, y Aprendiendo Rapidamente y Naturalmente--Reading, Writing, and Learning Rapidly and Naturally (LEARN)--demonstrated unusually positive results. LEP students approached the national norm in English reading, language, and mathematics; they also were near the norm in Spanish reading and mathematics. The progress was substantial and more than is generally encountered in a large program. (Author/PN)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED226012

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Earl Jones

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

✓ This document has been reproduced as received from the person or organization originating it.

Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

DEVELOPMENT ASSOCIATES, INC.

MANAGEMENT AND GOVERNMENTAL CONSULTANTS

TM 8 to 880

693 SUTTER STREET, 3RD FLOOR • SAN FRANCISCO, CALIFORNIA 94102

1981-1982 ANNUAL & LONGITUDINAL REPORT

REDWOOD CITY SCHOOL DISTRICT
ESEA TITLE VII BILINGUAL PROJECT LEARN

Dr. Earl Jones

Mrs. Eleanor Jones

September 1982

Redwood City, California

ACKNOWLEDGMENTS

An evaluation as extensive as this for the Redwood City School District ESEA Title VII project requires the concentrated effort of many members of the personnel of the project and the district. The evaluation team members want to express their appreciation for all the work performed in scheduling, testing, classroom observations, and other assistance important to the completion of the work.

The project director, Robert Costa, provided an enormous amount of help the two years of the evaluation. His guidance and direction are commended. Without his encouragement during difficult times, the success of the work would have been lessened.

Particular attention is called to the assistance tendered by the principals of the several schools. The complicated scheduling and the cooperation offered throughout materially aided the study.

The teachers and aides, of course, were always involved in all phases of the research. Their cooperation and forebearance are gratefully acknowledged. Similarly, their attendance at the orientation meetings and at those for review of the study is appreciated since their increased knowledge is the ultimate goal of the project and therefore the evaluation.

The evaluation team acknowledges the time and effort of the several other District administrators who facilitated the work and who took of their busy time to attend the review meetings of the first year results.

The data control sheets and classroom observation forms were developed by Development Associates, Inc., of Arlington, Virginia, and San Francisco, California. Their facilitation is appreciated.

* * * * *

The evaluators are fully responsible for the data analyses and for the conclusions and recommendations drawn from the results. The contract with the District and the funds from the US Department of Education do not necessarily imply that those organizations or the personnel endorse the findings.

* * * * *

TABLE OF CONTENTS

ACKNOWLEDGMENTS i

INTRODUCTION 1

Project LEARN Goals 2
Conceptual Framework of the Program 3
Instructional Approach 5
Identification and Placement of the Students 8
Administration of the Project 11

EVALUATION APPROACH 12

Research Design 12
Assessment of Pupil Effects 14
Data Analysis 16
Limitations to the Evaluation 18

THE STUDENTS 19

THE RESULTS 23

Instructional Practices 23
Language Proficiency Changes 25
English Achievement 27
Spanish Achievement 34

SUMMARY AND CONCLUSIONS 37

Appendix A: Data Control Guides* 43

Appendix B: Classroom Observation Guide* 46

Appendix C: Evaluator Vitae 57

LIST OF FIGURES

I: Redwood City School District Bilingual Education Conceptual Framework 4

II: Redwood City School District Bilingual Curriculum Materials Sequence 6

III: Schematum of the Assessment and Placement Procedures of the Redwood City School District and the Title VII Project 9

IV: Redwood City School District Reclassification System and Follow Up Services Plan 10

V: Evaluation Design for the Redwood City School District ESEA Title VII Project 13

VI: Longitudinal Cohort Design of the Study 14

VII: Achievement and Language Proficiency Testing Schedule for Redwood City School District Title VII Students 15

* *Copyrighted by Development Associates, Inc., Arlington, Virginia*

LIST OF TABLES

1: Students in the Data System 1980-1981 and 1981-1982. . . . 19

2: Composition Frequencies by Language. 20

3: English Fluency Classifications. 20

4: Frequencies of Regular, Migrant, and Special Education Students in Title VII. 21

5: Mean T Scores on English Achievement Subtests for All Students Tested, Tracked Students, by Grade for Fall 1980, Spring 1981, Spring 1982 and Significance of Differences . 28

6: Mean T Scores and Significance Levels for English Achievement for Tracked Students Only: Fall 1980, Spring 1981, Spring 1982; by Fluency and Student Status 31

7: T Score Means and Statistical Significance for Influential Instructional Variables across the Two Years 33

8: Mean T Scores and Statistical Significance of Spanish Achievement for Tracked Students: 1981 - 1982 by Appropriate Variables 34

LEYENDO, ESCRIBIENDO, Y APRENDIENDO RAPIDAMENTE Y NATURALMENTE*

PROJECT LEARN

Redwood City School District

INTRODUCTION

In 1979, after an intensive study of the community, the students, their needs, and the capacity of the educational system to deliver a high quality program, the Redwood City School District, Redwood City, California, applied for and was awarded an ESEA Title VII Bilingual Education grant from the US Department of Education. The proposed program, designed primarily to increase the educational opportunities of the limited English speaking students, was initiated in 1980-1981 and continued in 1981-1982.

Redwood City is located in about the center of the San Francisco peninsula, more or less equidistant between two large metropolitan areas, the city and county of San Francisco and the city of San Jose. In earlier decades, Redwood City had been principally a middle and upper class town and the district's students were almost entirely fluent English speaking. Its proximity to the city of San Francisco has caused some substantial population shifts in more recent times. When San Francisco reached a high density population, property values skyrocketed. Industries then began to locate elsewhere and especially in the lower peninsula, including Redwood City. The people that worked in those industries began to move near them and the composition of the Redwood City residents changed substantially.

The greater utilization of the Redwood City land area for industrial and business purposes, plus the general declines in the population growth, resulted in decreasing numbers of students in the district. The 1972 student enrollment was about 8900 but by 1979, it was just over 6000. That decrease, of course, caused some important changes in the number of schools and the students they served. More importantly, however, was the change in the composition of the students. In 1972, the non-minority student body was at 84.3%; in 1979, they accounted for only 70% of the total enrollment.

The major shift was in the increase of Spanish speaking students but groups of other languages had become greater also: Portuguese, Tongan, Cantonese, the IndoChinese languages, and Arabic. In the 1979 study of the English proficiency of the students, nearly 17% was classified as limited or non-English speaking throughout the district. Further, the recent experience of the district in educating these students only in the English language showed that their language capabilities and their performance in the content subjects had not increased satisfactorily and the district opted to institute an additional bilingual education thrust to the problem.

Reading, Writing, and Learning Rapidly and Naturally.

Funding for intensive bilingual education was limited; the district's own resources were utilized to their fullest in the provision of the required regular program. The state bilingual monies had not increased proportionately to the growth of the limited English speaking student rise. ESEA Title I regular and migrant were of great assistance but they were insufficient to extend to a growing population. The ESEA Title VII grant, then, was a vital supplement to the other funding sources for the operation of the services needed for the many Spanish speaking students.

In fall 1980, due to unforeseen delays in funding, Proyect LEARN was not begun until nearly eight weeks into the session. Qualified teachers and aides had to be found, materials purchased or produced, and the classrooms organized suitably for the instruction. Some classroom operations were not begun until late November. The result, of course, was a very short project year and the student gains were not expected to be as large as they might have been. In 1981, however, the program was for the most part in place. Fall testing was conducted early and the spring to spring results for most students allowed a complete academic year.

Project LEARN Goals

Incorporating inputs from the district and school administrations, the professional assistance staff members, the teachers, and representatives from the community, careful attention was paid to the results of the needs assessment, the examination of the students' performance, and the possibilities of implementing the new thrust. Ten goals were stated from these program processes:

1. Students will develop oral/aural and literacy skills in the primary language.
2. Students will develop English oral/aural and literacy skills.
3. Students will be able to master basic language skills that foster conceptual development as the foundation for cognitive learning.
4. Students will develop more positive self concepts.
5. Students will develop an understanding of and acquire ways of living in harmony with their multicultural environment.
6. Staff will individualize instruction by utilizing diagnostic and prescriptive processes.
7. Staff will participate in bilingual staff development activities to implement the bilingual education program.
8. Parents of participants will acquire the skills necessary to reinforce their children's learning experiences.
9. Parents and community members will be involved in the planning and implementation of the program.
10. The Redwood City School District will build its capacity to maintain a developmental learning program for Spanish speaking students.

Detailed behavioral objectives were then developed toward the best

possible implementation of the program so that these goals could be attained. Recognizing that limited English speaking students cannot accomplish full English literacy within a short period, and taking into account the many non-English speaking students among them, the project was set up on a three year cycle. Federal funding was available for only two years of the cycle.

Conceptual Framework of the Program

The longitudinal statement of the program, separated into short run and long term goals, was devised from the experience of the Redwood City School District, that of many others in the State of California, and many of the objective studies carried out in recent years. That is, while some gains in student performance can be attained in a relatively short time, those that produce full English literacy are complex, come together into a system of cognition, and result in a range of learning commensurate with the student's general capacities and his application to the instructional tasks. Students who speak only English require several years before they are fully literate in the language; the tasks in language for the limited English speaker are thus greater and require either more time to complete and/or a higher intensity of application.

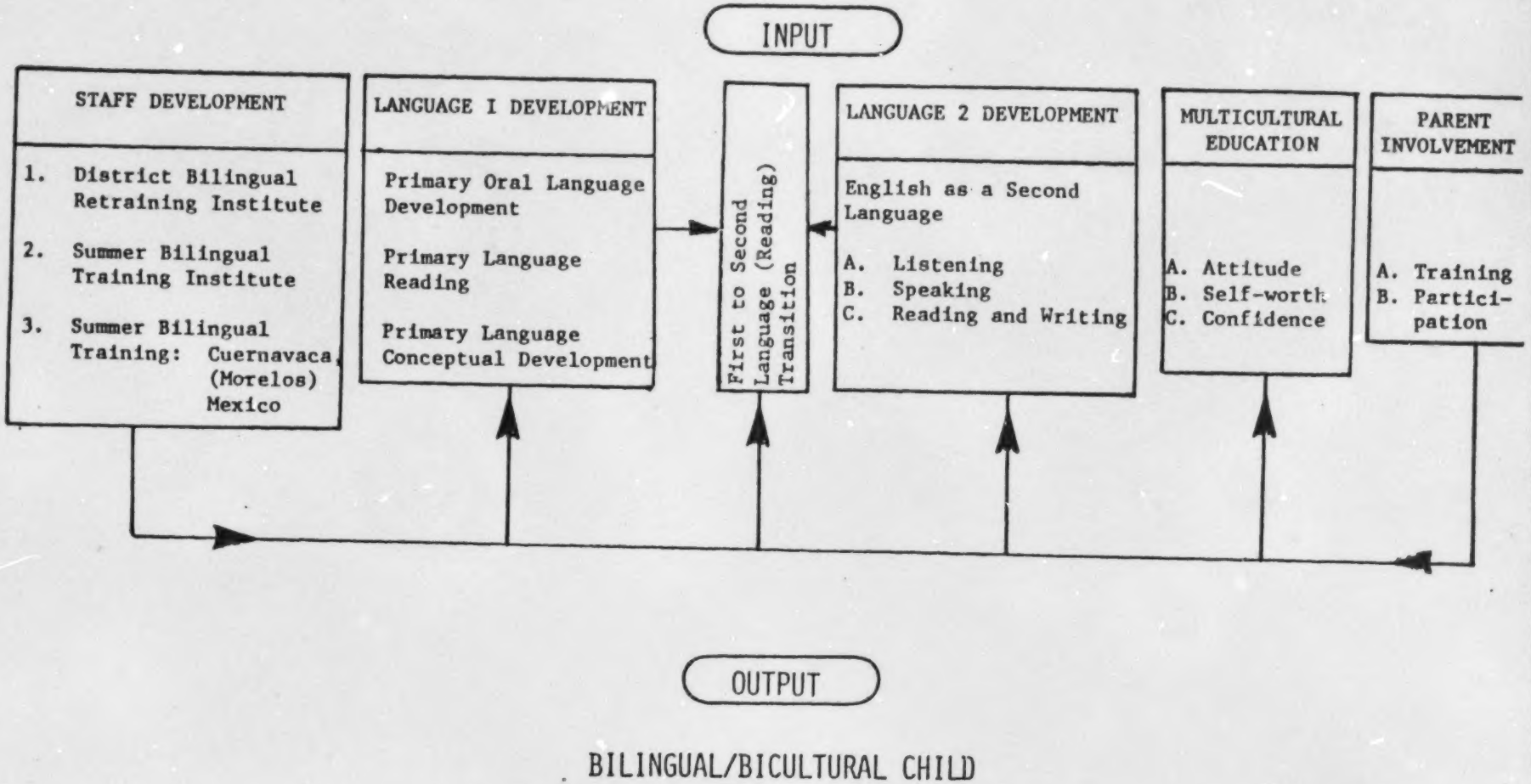
Recent studies, and especially that comprised in the publication, Evaluation of California's Educational Services to Limited and Non-English Speaking Students, have found that programs fostering biliteracy, when carried out efficiently, bring about a high degree of language and subject matter learning in a shorter amount of time. A part of that success is reportedly due to teaching the subject matter, and thus many of the concepts needed for later learning, in the primary language. That is, the student's progress in these subjects is not delayed until he has mastered English but instead can continue at a relatively stable pace through his school career.

Contrary to the opinion held by some professional and lay persons, that time spent on and/or in the primary language would detract from the time, and thus the learning, of English, the opposite occurred. All students, whether fluent, limited, or non-English speaking, when taught the language skills of both languages and the subject matter courses in both languages, performed significantly higher than those that concentrated almost exclusively on the acquisition of English.

Project LEARN, therefore, was designed within that conceptual framework - utilize both languages to the fullest extent possible to help students progress faster toward full educational opportunities and toward the capacity to profit from instruction conducted only in English. Figure I illustrates the complete conceptual framework for the Redwood City School District ESEA Title VII bilingual program.

That figure incorporates the complete set of inputs - staff development, language 1 development, language 2 development, multicultural

Figure I: Redwood City School District Bilingual Education Conceptual Framework



education, and parental involvement. Each input component is acted upon during the process, and in turn, then acts upon the output, the bilingual, multicultural child. As previously noted, the vast majority of the students with a language other than English speaks Spanish and those children were necessarily the main thrust of the program. Limited English proficiency students from other language groups also receive treatment within the program combination of Title VII, State Bilingual, and district efforts. In those cases, the first language, because of their scarce incidence, only English language assistance is accorded them.

Instructional Approach

The Redwood City Title VII project proposed an integrated approach to accomplish the instructional program, utilizing both English and the primary language effectively to allow children to learn in their native language while learning English. The assessment of the pupils' proficiency in English and Spanish permitted grouping children in appropriate instructional patterns that could include:

- instruction in English language arts;
- instruction in subject matter in English for those that were were proficient enough for concept development in that language;
- instruction in Spanish language arts; and
- instruction in subject matter in Spanish for those that would progress faster in that language than in English.

This combination took the students' English and Spanish proficiency into account in the formulation of their program, taught them individually or in small groups according to that proficiency, furthered them in the English and Spanish language arts and in their subject matter courses at the same time.

The instructional program was designed, then, into a dual curriculum model that was integrated in its two language approaches to give the maximum exposure, as appropriate, to English and Spanish, and at the same time, maximum coverage of the important subject area concepts. That integrated duality is illustrated in Figure II in which the instructional materials sequence is displayed. Strict attention to each child's development in language and culture guided the selection of the materials and their placement into the sequence.

While oral/aural skills in English and Spanish were emphasized as tools for entry and progress into reading and writing, and simultaneously to increase their interaction with their peers and with the instructional staff, these latter skills, reading and writing, necessarily received concentrated efforts. In the early stages of conceptualization of the program, the principles enunciated by a recognized reading specialist, Heilman (1967), were used as guides to the development of the reading program. Similarly, the writings of Thonis (1967) shaped the arrangements within the scope and sequence of the duality of the bilingual program; transfer of reading skills from one language to another. Subsequently, the findings of Jones et al (1980) stressed biliteracy as the most important criterion to achievement;

Figure II: Redwood City School District Bilingual Curriculum Materials Sequence

GRADE LEVEL	ENGLISH AS A SECOND LANGUAGE (ESL)	SPANISH READINESS/READING	SPANISH CONTENT AREAS -- Math, Science, Social Studies
Kindergarten (K)	I.D.E.A. (Arre Sales Co.) ESL Lesson Plan Guide (District Developed) R.O.C.K., Levels I&II (Melton Book Co.)	Amanecer (Behavioral Research Lab) Redondel Series (Santillana) Mi Escuela (SRA) Preparandose Para Leer (Houghton-Mifflin) Lectura En Dos Idiomas (Santillana)	Voluntad: Estudios Sociales, Ciencias Naturales, Matimatica SCDC Materials: Social Studies (Crane Publishing Co.) Science/Math/Health
First - Third (1 - 3)	I.D.E.A. (Arre Sales.) Steps to English (McGraw-Hill) ESL Lesson Plan Guide (District Developed) R.O.C.K., Levels I&II (Melton Book Co.)	A Cada Paso (McGraw-Hill) Lectura En Dos Idiomas (Santillana) Santillana Bilingual Series-Mira y Lee, Lee y Trabaja, etc (Santillana)	Voluntad: Estudios Sociales, Ciencias Naturales, Matimatica SCDC Materials: Social Studies (Crane Publishing Co.) Science/Math/Health
Fourth - Sixth (4 - 6)	I.D.E.A. (Arre Sales.) Steps to English (McGraw-Hill) ESL Lesson Plan Guide (District Developed) R.O.C.K., Levels I&II (Melton Book Co.)	A Cada Paso (McGraw-Hill) Crane Reading Systems, P-K (Crane) Senda (Santillana) Tesoros De Mi Raza and Raza de Tesoros (D.A.C.B.E.)	SCDC Materials: Social Studies (Crane Publishing Co.) Science/Math/Health
Seventh-Eighth (7 -8)	I.D.E.A. (Arre Sales Co.) New Horizons In English Books (Addison-Wesley Co.) Lado English Series (Regents) English For International Communications (American Book Co.)	Senda (Santillana) Tesoros De Mi Raza and Raza De Tesoros (D.A.C.B.E.)	SCDC Materials: Social Studies (Crane Publishing Co.) Science/Math/Health
DISTRICT MANAGEMENT SYSTEMS	K-8 ESL MANAGEMENT SYSTEM I.D.E.A. Continuum for English as a Second Language Developmental Skills.	K-8 SPANISH READING MANAGEMENT SYSTEM District Spanish Language Arts Continuum: Oral Language Developmental/Reading/Grammar	K-8 CONTENT AREAS MANAGEMENT SYSTEMS Voluntad Management System SCDC (Crane) Management System

the efforts to teach reading and writing were increased to stimulate the greatest learning possible.

The combination of oral, aural, reading, and writing in English and Spanish is best illustrated in a review of the instructional materials adopted for the curriculum. Figure II displays the sets of materials by grade level, English as a Second Language, Spanish Readiness/ Reading, and the Spanish Content Area scope and sequence. Those students participating in the regular English program for any portion of the bilingual program, followed the general Redwood City School District curricular materials, although in most cases, the students studied at a level lower than their assigned grade.

Multicultural education was integrated into all of the subjects to provide an interesting content and a greater scope of coverage than would be possible in single subject treatments. The selection of the curricular materials was carried out through a lengthy process to assure that the language arts and the multicultural activities were appropriately addressed.

A vital part of the instructional approach was the selection and the training of the resource teachers, teachers, and paraprofessional aides. Within the district, many teachers and aides were bilingual and some of them held the appropriate certificate for the bilingual program. Those were invited to serve in the Title VII project unless they were already utilized in the state/district bilingual program and could not be released or chose to remain where they were. Additionally, the district followed its regular faculty selection process to acquire others. Since the funding was somewhat late in first school year had already begun), some portions of the program were delayed; adherence to the strict district regulations on competency, however, assured a greater possibility of institutionalizing those chosen for the Title VII project, as well as better instructors for the classes. Almost no delay was experienced the second year.

Two resource teachers were selected from the certificated, experienced teachers within the district. Their substantial previous contributions to bilingual education and their already developed skills, made it possible for them to begin their work, once appointed, with a minimum of orientation time.

The Redwood City School District, recognizing the need for more bilingual teachers, had intensified the recruitment of these, in 1980 and 1981, to fill vacancies that occurred. Most of the classes, then, could be staffed by bilingual instructors. In the other cases, some teachers trained in English as a Second Language methods were required and their addition further strengthened the staff capabilities. A few rooms were necessarily staffed with a monolingual English speaking teacher and a bilingual aide when the enrollment of limited English proficiency students rose from the previous spring and since the late funding prohibited additions to the faculty.

The standard district procedures for selecting paraprofessional aides were also followed to keep the Title VII project within the normal structure of the district. Despite the large bilingual population in Redwood City, locating and hiring high quality aides was difficult

and time consuming. That further delayed the implementation of some portions of the program in some classes, especially the initiation of the full Spanish reading program. Nevertheless, the district was of the opinion that quality instruction was more important than just filling the positions and it proceeded carefully through the selection. Necessarily, too, once the aides were hired, they had to undergo the needed training in order to function properly in the bilingual classes. The selection and training phases, although they occasioned delays, were vital to the long term conduct of the project.

Identification and Placement of the Students

The state and federal rules for bilingual education require that a home language survey be conducted for all new students to the district and for all those who transfer from other districts without a recent survey form. The State of California Home Language Survey was utilized because it has been shown to perform well over the many years of use and to maintain a uniformity of procedures throughout the district programs.

Students whose home language was other than English were then tested by the resource teachers to determine the level of their English proficiency. The Language Assessment Battery had been used in previous years and was retained for the Title VII project. Available in English, Spanish, and Portuguese, the Language Assessment Battery (LAB) testing results in scores in English and the first language, facilitating important differentiations among those capacities that can be utilized to improve the placement of the pupils. Recommended cutoff scores were employed in the determination of limited English proficiency.

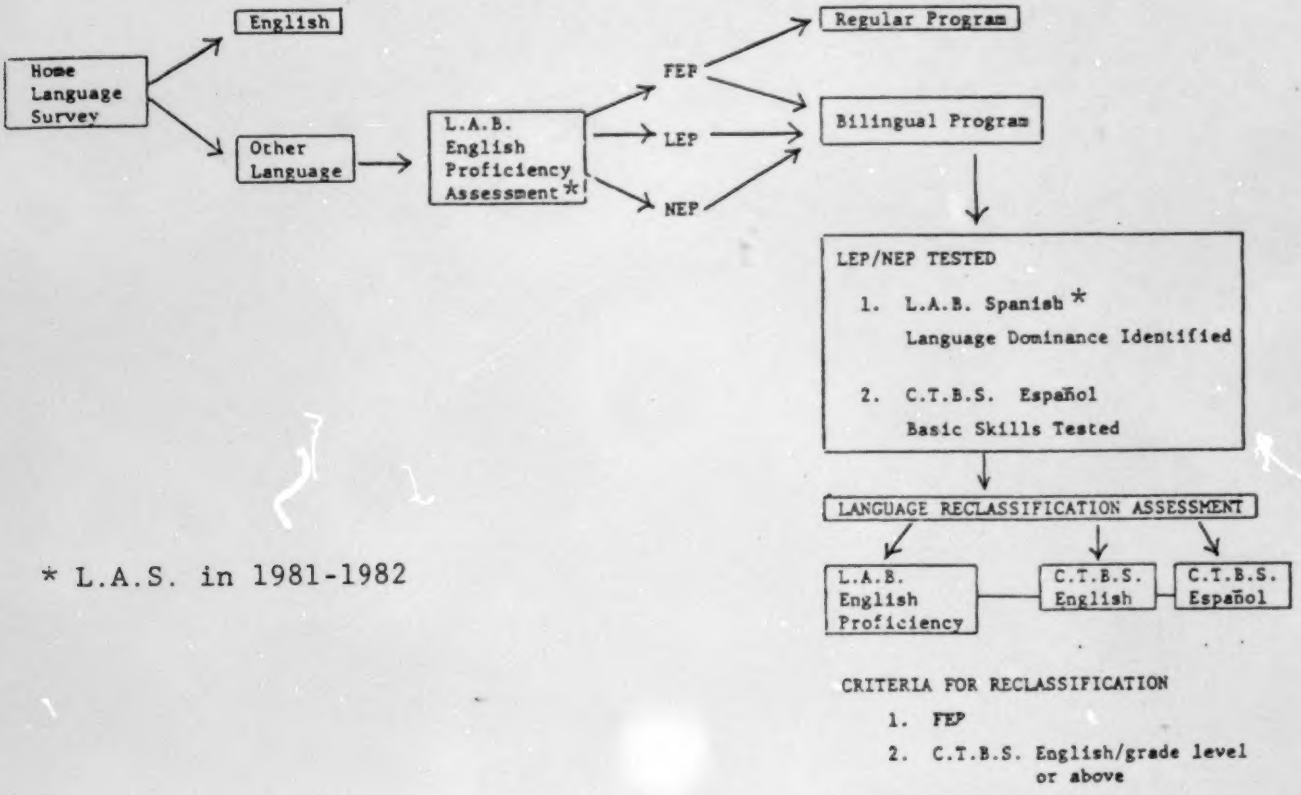
In spring 1981, the State of California revised its list of recommended English proficiency tests and removed the LAB from use after 1981-1982. The district personnel reviewed the proficiency tests remaining on the list and chose the Language Assessment Scales as a replacement. While the district could have obtained permission to wait for another year to change, it was deemed better to begin the use of the Language Assessment Scales (LAS) as early as possible. The literature on the score and classification equivalences across the two tests had been inconsistent, thus an early change should minimize any differences that might occur.

Consequently, those pupils tested for English proficiency in spring 1981 were administered the Language Assessment Battery while those in kindergarten and any students new to the district were administered the Language Assessment Scales in fall 1981. All those students within the purvue of the present annual report, 1980-1981, were tested on one single instrument, the LAB. No variation in the presentation of their English proficiency thus occurred. Appropriate checks will be made for those tested in the 1981-1982 academic year to assure that the tests have not entered into any differences that are found.

The testing, classification, and placement of the students in the Title VII project followed the same procedures as those for all others

in the district. Figure III displays those regularized procedures as stipulated in the district general plan and in the ESEA Title VII proposal. The combination of the home survey, the English proficiency (which also yielded dominance) testing, and the administration of the English and Spanish achievement instruments provided an appropriate placement system followed up by the best placement possible within the resources of the district.

Figure III: Schematum of the Assessment and Placement Procedures of the Redwood City School District and the Title VII Project

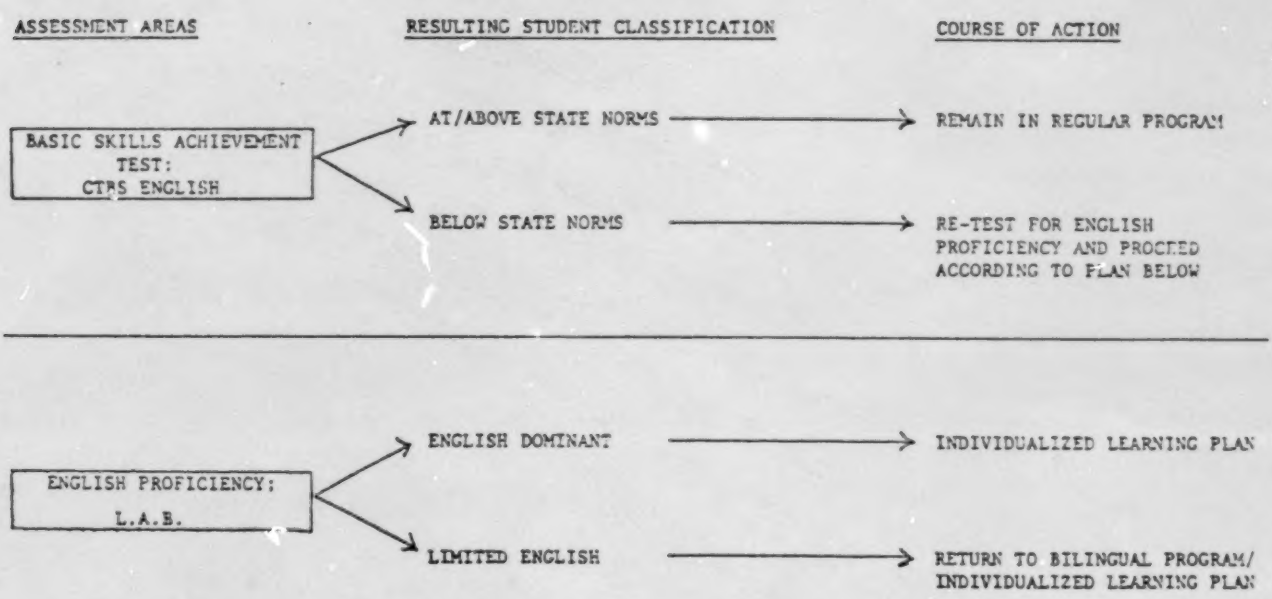


* L.A.S. in 1981-1982

The placement followed the procedures for almost all the Spanish language pupils. The only exceptions were those legally mandated which allowed parents to request, in writing, that their children be placed in all English programs. Too, the district contained students that did not speak Spanish, as noted earlier in this report. Both groups were served, however, via the English as a Second Language and through Individual Learning Plans with the appropriate assistance as needed. The Spanish/English bilingual program has achieved a wide acceptance in the community and only a very few students were refused permission to participate. Many fluent English speaking children also were included in the Spanish language program because their parents wanted them to acquire literacy, not just fluency, in that language, another indication of the quality of the program.

The services to the limited proficient students did not cease once they had become fluent in English. A district wide follow up plan was in force for those students. The reclassification procedures, including re-testing on English proficiency at appropriate periods through their school careers, together with the regular English achievement testing, supplied data for re-examination of the pupils. (Figure IV illustrates the reclassification system and the follow up plan.) The objective of assisting students to achieve at their highest possible level, not just at grade level, was thus a major part of the overall operations of the project.

Figure IV: Redwood City School District Reclassification System and Follow Up Services Plan



The combination, then, of the home language survey, English proficiency assessment, appropriate placement for instruction, assessment for reclassification, and the follow up services, provided a comprehensive system for assisting the students to progress at a satisfactory pace through the instruction in all subjects while they acquired a greater capacity with the English language, and the integration into the full English program as soon as possible and within the desires of their parents. That systematic approach was seen by the district and state officials as the best possible thrust in educational services to limited English proficient students.

Placement of the pupils followed the district, state, and federal rules that require that a substantial proportion of each classroom, and in so far as possible, the entire makeup of the individual school,

be made up of fluent English speaking pupils. Limited English proficient students, then, have the advantage of hearing appropriate English usage, important within the modeling principles of bilingual education. The measure also avoids concentration of a single ethnic group in a classroom which has been ruled as a form of segregation. When needed, single classes within a school day could be made up of limited English speaking pupils and even from the same ethnic group; English as a Second Language and subjects taught in Spanish were thus allowed for short periods of time to maximize the instruction. No whole day classroom, however, comprised one language or ethnic group.

Administration of the Project

The ESEA Title VII bilingual education project was fully integrated into the regular administrative structure of the district, while at the same time providing specific administrative functions for the management of that program. That is, each administrative task was assigned to the appropriate person throughout the system but with a coordinator to give guidance to the testing, materials acquisition, instructional patterns, and training. The coordinator was incorporated into the general administration of the district, as well as into the bilingual education program as a whole.

The principals of the schools in which Title VII classrooms existed were charged with the direct supervision of the instruction and the general procedures for the project in their schools. The coordinator worked closely with them in the general supervision of the project.

The district testing office provided the general English achievement testing schedules, procedures, and instruments. Further, the personnel of that office was in charge of the English achievement testing, working with the Title VII coordinator on the testing needs of the project pupils. Specialized testing for English proficiency was conducted by the resource teachers in cooperation with the principals and the teachers in the schools.

Aside from assisting with the testing, gathering statistics, and some help with the reports needed for the project and the schools, the resource teachers performed no administrative functions. They were deliberately excluded from supervision to enhance their image as help to the teachers and aides since combined assistance and supervision has generally been found to be detrimental to the appropriate conduct of the resource teacher function.

In summary, then, the administration of the ESEA Title VII bilingual education project was a carefully designed sharing of responsibilities among the several existing management structures within the district, but with a coordinator overseeing its conduct. The combination was expected to maximize the feeling of being responsible for the outcomes by all those involved and yet at the same time, provide ease of management.

EVALUATION APPROACH

Evaluation of the ESEA Title VII bilingual education project, LEARN, represents an essential component in the determination of the relative strengths and weaknesses of the program. The general plan for the evaluation included both internal and external tasks. The internal evaluation efforts were carried out by the project director, other administrators at the district level, and by the principals in the schools. Information on the internal evaluation included in the general reporting of the project and were furnished to the external evaluator as needed for that comprehensive review.

Similarly, both formative and summative evaluation information ha been included in the overall design, incorporating periodic checks and reporting into the internal and external phases. The information from the internal activities include the supervision of the training of the instructors, their implementation of the program, and the effects that emanate from the program. The English and Spanish achievement testing, as well as the language assessments, were conducted internally and the data made available to the project personnel, the principals, the instructors, and to other district personnel involved in assessment.

The external evaluation was contracted to independent researchers, experienced in the conduct and evaluation of all levels of education, Dr. and Mrs. Earl Jones. Their substantial experience in classroom observations and in careful analyses of data were vital to the conduct of the present study. The principal tasks of the evaluation were the observations of the implementation of the program, the processing of the data derived from the assessment procedures, and the provision of the formative and summative reports to the project. The formative reports consisted of verbal conferences as needed plus short written reports on details. The external summative report at the conclusion of 1981 and the present 1982 annual and two year longitudinal report, furnish data and findings for future project planning.

Research Design

Since the Redwood City School District ESEA Title VII bilingual education project was conceived to encompass three years of treatment, the main effect program evaluation design, both formative and summative, consisted of a quasi-experimental time series organization. A time series design was seen as more realistic for a comprehensive educational program, and especially for one in which many of the pupils are severely limited in their English proficiency. While short term effects will be measured annually, the complete design allows for a final, three year, assessment of the progress. This design allows for control of program treatments to ascertain their effects in a dynamic school setting, as recommended by most evaluation specialists and which have produced useful results in many other sites and periods of time.

The early formulation of the research design conceptualized for the project expected to encounter approximations of the students in the

project and other classrooms that could serve as cohorts for direct comparisons. The expansion of the district's bilingual education efforts to the entire limited English speaking population in the grades served by Title VII, introduced the unforeseen element of non-comparability among separate groups. A solution utilized in a few projects, that of using the non-bilingual program students enrolled in the regular English program for the comparisons, was untenable in the Redwood City School District situation since there were so few of these that the could not comprise sufficient numbers for the evaluation.

In districts that include substantial numbers of fluent English proficient students into the bilingual classrooms, as is the case of Redwood City, and in the circumstance in which many of those fluent English speaking students are from the same language group as those served by the project, another solution is presented. In recent years, with the spread of bilingual education services to most students in California, this arrangement has been found to be one of the best. Differences in the treatments are minimized, especially those relating to teacher and aide behavior. Consequently, this method was chosen for this Title VII project. Additionally, the modification allows for the comparison of the achievement with students of other ethnic groups, giving further evidence of the program effects. (Figure V contains the final research design for this evaluation.)

Figure V: Evaluation Design for the Redwood City School District ESEA Title VII Project

Cohorts/Groups		T_1	T_2	T_3
Cohort I	Group A*	XO_1	XO_3	XO_5
	Group B**	O_2	O_4	O_6
Cohort II	Group A	XO_1	XO_3	XO_5
	Group B	O_2	O_4	O_6
Cohort III	Group A	XO_1	XO_3	XO_5
	Group B	O_2	O_4	O_6

* *Treatment* ** *Comparison*

The design is longitudinal and provides for short term effects as well as three year effects. Students in the project that had been tested in English the spring previous to the initiation of the implementation, 1980, already possessed a feasible pretest score. Those not in the project were pretested in fall 1980 to established a base point for comparison. Standard T scores were used to convert the raw scores, thus approximately equating the pretest scores from the two different periods.

Each student was then tracked individually across whatever time period he underwent treatment in the regular Title VII project or received

follow up services. The basic ingredient, assistance in both languages, was provided, in so far as possible, whether the student remained in the project classroom or transferred to others. That allowed for consistency of treatment to obviate radical departures from the instruction. The longitudinal design, depicted in Figure VI, shows the three cohort groups' progression through the program had it completed its planned three years. Cohorts by grade have been thought important by some researchers.* The third year could be studied by the district if funds become available.

Figure VI: Longitudinal Cohort Design of the Study

Cohorts	Spring 1981 (T_1)	Spring 1982 (T_2)	Spring 1983 (T_3)
I Grades:	K	-	-
	-	1	-
	-	-	2
	-	-	-
II Grades:	3	-	-
	-	4	-
	-	-	5
	-	-	-
III Grades:	6	-	-
	-	7	-
	-	-	8
	-	-	-

Cohort group I consists of grades K, 1, and 2; II is comprised of 3, 4, and 5; group III is made up of grades 6, 7, and 8. The latter is of particular importance since the district has not previously offered a bilingual program for those grades; the findings are expected to be important ingredients in the formulation of interim modifications and a final program for future years.

Assessment of Pupil Effects

At the inception of the evaluation, data profile formats were prepared to accomodate the pupil characteristics found to be influential in achievement in other studies. Included in the same forms, were arrangements whereby the standardized achievement test scores could be recorded, together with salient features of the instructional program they had received. (The data recording forms are presented in Appendix A; the observation instruments used to gather instructional program data, are included in Appendix B.) Those forms containing student's names were kept separate from those with the achievement data to meet the standards of pupil privacy.

**This finding has by no means been universal; the longitudinal California study, for example, found no differences by grade when the pupil and program characteristics were controlled.*

In 1980-1981, as previously discussed, both the pre- and the post tests for the kindergarten pupils and the fall test for the first grade utilized the LAB assessments of language proficiency in English and Spanish (Figure VII). A mathematical comparison of the kindergarten improvement was calculated; the first grade LAB test scores served only as a one point in time measure. Since the Spanish LAB scores were quite high in fall testing, few group differences would be expected. LAB scores were also obtained for the students in the other grades that had not been tested previously. In 1981-1982, the Language Assessment Scales (LAS) were administered for language proficiency.

Figure VII: Achievement and Language Proficiency Testing Schedule for Redwood City School District Title VII Students

Grade	Language Proficiency	Standardized Achievement English Form	Level	Spanish Form	Level
K	LAB/LAS				
1	LAB/LAS	S	B	S	B
2	LAB/LAS	S	C	S	C
3	LAB/LAS	S	I	S	I
4	LAB/LAS	T	I	S	I
5	LAB/LAS	T	II	S	II
6	LAB/LAS	S	II	S	II
7	LAB/LAS	T	III	S	III
8	LAB/LAS	S	III	S	III

The entire Redwood City School District student body is administered the Comprehensive Test of Basic Skills, English version, with the same forms and levels listed in Figure VII for the Title VII students. That is, there is a single testing schedule for all pupils. The Spanish version of the Comprehensive Test of Basic Skills (CTBS) is administered to students participating in Spanish reading programs.

The CTBS technical manuals for forms S and T provide statistics that show high validity and reliability for each level and grade. No information across grades, levels, or forms is furnished. An earlier study showed difficulties with those children scoring in the high and low raw scores since T scores declined across levels B, C. and I for the high scorers and declined too rapidly for the low scorers. Similarly, the S and T forms are not totally parallel; T scores differ between the two for some grades, especially those from fifth up. The district, however, had adopted alternate forms to adjust for test recall. Too, no suitable alternative to CTBS was available since all the other tests examined contained similar or more severe problems across levels and some on grades. Statistics across forms are also lacking in the other standardized tests.

Except for the noted high and low scores difficulties, T scores tend to equate raw scores across forms since each has its own mean and standard deviations. The 1981-1982 scores, therefore, contain no appreciable effects of the forms; the longitudinal findings will and the narrative will take these into account.

Form S of the Spanish version of the CTBS has been used extensively and fewer difficulties have been reported with its administration, scoring, and standardizing for the first three grades than with the English version. Those students that scored at the upper limit of levels B, C, and I have shown some standard score decline but those scoring less than that appeared to be at about the level expected. No alternative form of the Spanish version is yet available, thus in the present study, only form S was utilized.

The subtests of Reading, Language, and Mathematics were used for this evaluation for the English version. No total score was attempted since the diagnostic value of the subtests was expected to be of more importance than an overall assessment. The Spanish version contains only Reading and Mathematics subtests. The material constituting the Language subtest in English was incorporated into the Reading subtest in Spanish, in so far as the components of Spanish language acquisition demonstrated the same types of academic development.

Title VII students present and tested in spring 1980, with those achievement scores recorded, were treated longitudinally in this evaluation. Fall 1980 pre test scores were available for some that were new to the district and those were entered for a shorter longitudinal computation. The final measurement was spring 1982.

Data Analysis

All proficiency and achievement test results were recorded in raw score form on the preliminary data control sheets. The latter were then converted to T scores via the usual formula of:

$$\frac{\text{raw score}}{\text{norm mean}} \div \text{standard deviation} \times 10 + 50 = \text{T score}$$

The formula results in whole number T scores by rounding off the decimal points. The T scores can then be added, subtracted, or manipulated through any of the usual statistical calculations to portray the relative student group status. Individual scores are produced but most test experts urge caution with absolute judgments about those; they are rather seen as an approximation of the individual's status in relation to others.

The T scores were recorded on computer sheets through the procedures prescribed for the *Statistical Package for the Social Sciences (NIE ET AL)*. Computer cards were then keypunched, edited and verified, and the calculations were performed at the Computer Center, San Francisco State University. The cards were preserved since the scores for the following years of the project can be added in and the longitudinal analyses computed again if desired.

The student characteristics were collected individually and entered onto the data control sheets. These included:

School, class, and grade in which the student appeared in 1980-1981; students who moved prior to the classroom observations were re-coded to the new room and/or school.

The three previous characteristic codes, added to an individual student identification number within each classroom, formed the complete identification.

The student's primary language, that is, the one in which he was declared as dominant or most proficient, was coded.

The LAB test classification - fluent, limited, non-English speaking was coded and entered for each student (LAS in 1982).

Each student was classified as regular, migrant, or special education and the appropriate code entered.

Finally, students were classified into two socio-economic groups, those receiving free lunch and those not, and the code was also applied to the individual student characteristics listing.

These characteristics were utilized in the analyses to determine whether the groups formed by any one set of characteristics scored differently from any others. In some cases, as will be seen in the results, two characteristics were used in conjunction with each other to establish whether subgroups of any characteristics varied from the other combinations. In other studies, English fluency, when combined with student and socio-economic status has produced significant differences. The process was repeated for 1982.

The scores from the classroom observations, conducted by expert bilingual and English as a Second Language (ESL) teachers with training and experience in administering the instrument, were entered for each student but on a separate card since the classroom influences will necessarily change across the years. Those scores on the teaching/learning behaviors in the classes, have been demonstrated as discriminators among achievement scores in some other evaluations.

The school and class codings were not utilized in the analyses. Since the programs usually vary more among the classrooms than between schools, no clear advantage could be ascertained for them. Class was not needed, except as an identifier, since the classroom observation data applied to the specific classes.

The proficiency and achievement scores were analyzed using all the other coded characteristics and the data from the classroom observations. Frequencies were computed for each characteristic. When differences occurred, breakdowns were performed to determine where they lay. Subsequently, analyses of variance were done, including tests for significance of the differences. Partial correlations were calculated only between the English and Spanish reading and mathematics subtest scores to establish relative status between them. A combined score was used for the longitudinal study.

Appropriate tables were then prepared for those statistical findings that showed significant differences or for which the lack of significance was academically important. All other findings were treated narratively so as not to clutter the report with unnecessary and uninformative tables.

Limitations to the Evaluation

The most important limitation stemmed from the delayed funding of the project; some classes were able to begin the full program only after teachers and/or aides could be employed, trained, and integrated into the classroom instruction. It was expected, then, that the delay in implementing the instruction, especially that relating to Spanish teaching, but also applying partially to the classes in English as a Second Language, would reduce the possible effects of the program. That reduction was also expected, naturally, to reduce the statistical effects that could be demonstrated for the first year of the project. When that reduction is germain to the discussion of the findings, it will be indicated. The second year of the project was not affected but of course the longitudinal study did not comprise two academic years.

Redwood City has a relatively high number of migrants enrolled in school. Some arrived late and left for other work sites early. When their children accompanied them, both the effects of the project instruction and the lack of some test data would be expected to appear. Under employment and frequent job changes also affected the amount of data from some students due to moves to accommodate employment opportunities.

Too, although the district trained teachers and aides as well and as rapidly as possible, those with little starting experience are at a disadvantage when compared to more experienced instructors. They will often need more than a few months experience to bring their instructional patterns to a high level of effectiveness. A new project, then, with new instructors, is usually expected to show less effect of the program the first year than afterward. The combination of some experienced and some inexperienced instructors introduced some uncontrollable factors into the program effects.

Throughout the discussion of the results, these limitations will be brought out as they are pertinent to the findings. While they cannot be quantified, notification of their possible influence is important to understanding the status of the project at the conclusion of its first fiscal year.

Despite these limitations, the careful data collection, control, and analyses make this first year project report of utility to the administration. While not all the findings are definitive, they provide important guidelines for future projects and programs.

THE STUDENTS

Project LEARN instituted the bilingual education and English as a Second Language program in grades K through 8 in its designated schools. The evaluation necessarily began somewhat late in the first year but was not delayed the second. Setting up the system for tracking the students was a major effort in 1980-1981 but in 1981-1982 most could be followed from the previous year.

Every student present at the collection of any data was entered into the evaluation records even though they were not present for all assessments. The tracking therefore allowed for picking up some students that had been lost due to moves within or outside the district. The total number of students for which any data were available across the two years is displayed in Table 1.

Table 1: Students in the Data System: 1980-1981 and 1981-1982*

Grade	1980-1981	1981-1982
K	149	146
1	148	147
2	189	151
3	85	136
4	87	88
5	87	84
6	65	68
7	110	73
8	109	94
Total	1029	987

* *The numbers in this and the succeeding tables will not equal the number enrolled in the program.*

These numbers include all fluent English speaking students in the project classrooms at the time of any data collection since they, too, constituted a part of the research sample, forming the cohort groups by grade. The smaller number in 1981-1982 primarily represents data loss rather than fewer students. The size of the program remained approximately the same across the two years.

The first or primary language of the children in the project was Spanish in the majority of the cases. English was the second largest language recorded; this was due mostly to the inclusion of the fluent speaking students in the cohort groups. Some of them, however, were classified as limited English speaking even though English was their first language; they came from homes in which another language was spoken a majority of the time. Some students were measured as fluent English speaking in fall 1980 or spring 1981 even though they had learned another language first. These were often in the classes because their parents wanted them to become biliterate English/Spanish.

Table 2: Composition Percentages by Language

Language	1980-1981	1981-1982
Spanish	63.2	61.0
English	32.4	35.2
Unspecified*	2.5	2.2
Vietnamese	0.6	0.9
Panjabi	0.5	0.2
Tongan	0.3	0.3
Armenian	0.2	0.1
Other**	0.3	0.2

* *Left before home language survey completed.*
** *Cantonese, Portuguese, Korean.*

The first language of the pupils did not necessarily relate to the measured English fluency. Since each class was composed of both limited and fluent speakers, some were included in the latter who had learned another language first.

Table 3: English Fluency Classifications

Classification	1980-1981	1981-1982
Fluent	37.1	40.8
Limited	47.7	45.2
Non*	14.4	13.9
Unclassified	0.8	0.1

* *Although the Title VII classifications had eliminated this category, it was preserved as a variable.*

The 1981-1982 group included a slightly higher proportion of fluent English speakers than in the first year. Some was due to the improvement over the previous year by some students and the rest to changing population patterns. Non-English speaking pupils also decreased slightly for the same reasons. A few students were not classified in each year because they had arrived late in the year and the language proficiency test had not yet been performed. Since teacher judgment was sought on the classifications, any differences occasioned by changing the tests from LAB to LAS were eliminated.

The mandated proportion of fluent to limited and non-English proficient students was above the legal limit in both years. Each year the kindergarten and English as a Second Language classes had higher proportions of the non-fluent categories than the others but they were still high enough to provide the desired modeling. In the very specialized English as a Second Language classes, the type of instruction made the inclusion of fluent English speakers untenable, especially in the middle schools but those classes made up only a small portion of each day; during

the rest of each day they were in mixed fluency classes, thus providing a great deal of English modeling. In the English as a Second Language classes, the highly intensive modeling of the teacher and the aide was the most appropriate method of delivery.

Socioeconomic status has, of course, been found to be in interaction with academic achievement in many studies. The October 1, 1981, changes in eligibility for free lunch, the criterion for the low and other categories of this variable, caused some shifts among the students. Later, still other changes occurred that made other classification modifications. The process for determining eligibility also became more complex and some parents chose not to complete the forms. For this evaluation, the modifications in categories made it impossible to utilize this variable. Whi... that is regretted, due to the socioeconomic influence found in other studies, especially that for California as a whole, neither the district nor the project had control over the changes; it could not be helped during this transition period.

Most studies, including the longitudinal evaluation among California bilingual education students, have found migrants to consistently score lower in achievement, as a group, than the regular students. This is of particular importance to the Redwood City project because nearly a third of the students was officially eligible for that program. The exact nature of the cause of the differences is still under study but some small evaluations have also found substantial variations in their school attendance, a reduction in their total exposure to education. The present evaluation did not attempt to control for attendance; only the general category was preserved.

Table 4: Frequencies of Regular, Migrant, and Special Education Students in Title VII

Status	1980-1981	1981-1982
Regular	66.9	66.4
Migrant	29.4	30.0
Special Education	0.2	0.1
Unclassified	3.5	3.5

The status composition of the Title VII project students did not change appreciably across the two years. Unfortunately, some of the migrant students were present for only one of the measurements and thus their representation in the achievement variables is less than their total proportion among the students.

Special education students received several types of services in the Redwood City schools. When at all possible, they were excluded from the bilingual classes of the project. A few, however, began their career with nearly no English proficiency and had to be included. Their numbers were so small in both years that they could not be analyzed as a group and are therefore not displayed in any of the achievement results; they were eliminated from the analyses.

The data in the tables demonstrate few differences between the two academic years. The relatively small percentage differentials were easily explained by population shifts in most cases. What is not apparent in these tables, however, is the changes in the students for whom the longitudinal perspective could be assessed. That is, despite the very minor modifications in the several categories, a large shift occurred in the numbers with three points in time on the achievement data; absences, migrations, and some incomplete subtests accounted for most of the missing data.

This occurrence is by no means unique to the Redwood City schools. The study for the California Legislature lost nearly half the students, in terms of their usable data, across three years. Even two years was important; slightly more than a third did not have the data for two points in time. The Redwood City experience was slightly better, 61.2% had three measurement points but these were encompassed within two academic years, not three. The spring 1981 to spring 1982 group was about the same, 61.4%. Unfortunately, some students with fall 1980 and spring 1981 did not also have the spring 1982 data; that is, although the percentages were about equal, the cumulative percentage dropped to 59.1%.

While the previous paragraph emphasizes that the Redwood City experience is much like that found in other studies, the result is some weakening of the explanatory value of some of the program variables. The final summative data show substantial increases in the T scores for both English and Spanish reading. Much of the increase is due to the well designed program and its implementation. Some, however, is because a higher proportion of migrant than regular students did not have the necessary measurements; since migrants have usually been found to score lower, their absence had some influence on the T scores.

Had the missing scores been the only influence, calculations of it could have been made. Unfortunately, one other factor intervened: the alternate use of of the S and T forms of the CTBS was also involved. The T form was used in some grades in 1981, spring, but none in 1982, spring. Since there was a considerable evidence that the scores from the T form were somewhat lower than for the S form, some increase would have to be supposed.

As will be stated later, however, the primary influence on the achievement was the program implementation. Several tests for variance were performed: T scores by cuartiles, T scores by form, and the combination. Each showed some difference alone but the significance levels were low, never exceeding .05. Thus, although absolute separation by influence was not possible, the intervening factors were held to be relatively minor in this study.

THE RESULTS

The ESEA Title VII project in Redwood City designed the evaluation to determine both intermediate and ultimate effects emanating from the activities. Both types are explained for each year and longitudinally to aid in the assessment of cause and effect.

The administrative functions of providing suitable teachers and aides, furnishing help to these through the resource teachers and the project director, and the cooperative, decentralized efforts of these and the principals were expected to lead to a high quality implementation, an intermediate effect. In the present evaluation, classroom observations were utilized to supply the data on the instructional practices, the major effect of the direction of the project and, according to many studies, very influential in the final progress of the students.

English proficiency was measured, first, to serve as a variable in the analyses of the achievement scores. Secondly, in the subsequent measurements, it served as an effect of the program; students were postulated to increase their proficiency in that language.

Academic improvement was measured through the standardized achievement test, Comprehensive Tests of Basic Skills, in English and Spanish. While there are some limitations in assessing program worth via such scores, especially for individuals, they are acceptable evidence for groups.

Instructional Practices

The Title VII project proposed to the US Department of Education that it would train the instructors - teachers and aides - in bilingual education and English as a Second Language methodologies. The instructional practices, then, became both a variable for measurement per se, as well as a means for improving the academic improvement of the students. The measurement of the practices was carried out through classroom observations that followed some of the quantitative guidelines of Stallings and qualitative aspects utilized by Glaser & Strauss. The combination is useful in an environment such as bilingual education in which techniques are important in and of themselves and yet they may be mitigated by the general treatment accorded the students.

The type of program has been found by many researchers as a significant variable in achievement even though the differences within the programs they measured were often very great. In the case of Redwood City, little variation was expected since a uniform plan

was implemented among the schools and classrooms. Some differences existed because of the age of the students and the materials they studied but otherwise a high degree of uniformity was found. The emphasis on English as a Second Language at some levels was greater than others but the thrust was the same.

Similarly, although some studies found differences in classroom practices - individualized, small group, or whole class direction of instruction - that instructional component was not a variable in the present study. The classroom observations showed that every teacher utilized all three directions. While the amount of time dedicated to each varied, the relatively short time for the observations obviated the practice as a differential.

Interaction between the students and the instructors varied a great deal among the classrooms. A very high intensity was seen in most English as a Second Language classes and in some of the bilingual classes as well. Although the observors returned several times to a few classes with low interaction, the interaction remained radically different from the majority of the classes.

A great deal of difference was also found in the structure of the language presentations. Some were almost totally structured, especially those for the English as a Second Language exercises, while seven were with little discernible structure. In four of those classes, discipline was also extremely lax, thus the measured structure suffered from the undesirable conditions in rooms, that is, structure could not be perceived through the high level of movement and noise in the room. The logicality of the language presentations also varied; while most proceeded through planned lessons that carried the students through a series of exercises that was expected to engender sequential learning, others appeared to move through some practice with little order. A major element within the lack of logicality in some rooms was some Spanish instruction far below the abilities of the students. Phonics drills, for example, were the only mode of instruction within five elementary rooms rather than directing the phonics and phonetics toward reading exercises.

Few instructors mixed the languages when teaching either one. Too, the amount of mixing was minor, accounting for less than 10% of the sentences used in the teaching. More mixing was evident in the informal conversations but that, too, was not a characteristic of those. Most research has found that only habitual and continual mixing causes confusion and related slower achievement gains.

English proficiency and literacy were not a serious problem among the teachers. Most of them spoke the language to a very high degree of fluency and any deviations appeared to be related to general grammatical errors. Spelling was almost always correct and the syntax was usually accurate. Among the aides, however, four spoke with some limitations from accent and vocabulary; their spelling also showed some need for improvement. Nevertheless, both the aides and the teachers were measured at a relatively high English proficiency. The differences were insufficient to influence academic achievement.

Spanish fluency and literacy were also quite high - considerably higher than in many classrooms in the longitudinal California study. Minor errors and some fairly heavy accents were recorded but they were not general across the project nor were they to such an extreme that they would be expected to cause any great amount of incorrect learning on the part of the pupils. The combined

abilities of the teachers and the aides, providing instruction in the language each commanded best, should have negated any undue influence.

A high proportion of the language modeling activities was well conceived and conducted in both years. The instructors modeled, pupils practiced, and the teachers modeled again. Naturally, some variation was observed but it primarily occurred in those classrooms in which the teachers also exhibited high or low structure and logicality. They appeared to be closely related. The reading activities, except for the rooms with discipline problems, and in a few Spanish classes where too much time was spent on phonics, were conducted with skill. The amount of reading in both languages was commendable; it was a significant part of every day's work. Writing activities were considerably fewer for the limited English proficient students; that is generally expected when oral, aural, and reading approaches are emphasized. A good many rooms carefully combined the four skills into integrated lessons, a practice that theorists recommend.

As would be expected from the previous discussion of the management of the students, or lack thereof, the amount of calculated learning time different considerably. Improvement was noted in the lowest group from the first to the second years. While one was [illegible] 38% in 1981, the lowest was 46% in 1982. Two others were [illegible]ut that amount in 1982, similar to their percentages in 19[illegible], one had made significant progress, raising from 48% to 58%. Six others were just over 60% in both years. Most, however, were measured at more than 80%, a very commendable portion. Those teachers were the same both years.

Overall, the Redwood City Title VII classrooms were characterized as imparting the lessons with high instructional practices ratings. While a few of the variables were conducted less appropriately than others, the vast majority of the teachers were excellent practitioners in the delivery of instruction in English, Spanish, mathematics, and English as a Second Language. Some changes in instructors between 1981 and 1982 improved the latter ratings. Since the scores also improved, the changes appear to have been salutory.

Language Proficiency Changes

The California regulations provide for language proficiency testing of all new pupils and retesting of those who appear to have made substantial progress or whose parents request reassessment. The kindergarten classes in the project were both pre and post tested in 1980-1981 and 1981-1982 since small changes could affect where they were placed as they moved into first grade. The spring test each year served as the base for the coming fall.

In both years, the gains from fall to spring for the kindergarten increased although the mean was not as large as anticipated; a part of that mean size was due to the high proportion that scored

in the upper quartile, thus with little room for improvement in their English scores. In the first year, the lowest quartile increased their gains at three times that of the upper quartile, primarily because many of those students were very limited and even non-English speaking at the beginning of the year. The second year, the results for the lowest quartile were also enormous even though with the scoring of the LAS, the proportional change was somewhat less. The switch between the LAB and the LAS made assessment from kindergarten to first grade improvement assessment tenuous at best. A correlational analysis was attempted in order to obviate the problems of different scoring and the Pearson's R was at 71, a moderate correlation, which did not appear to be in keeping with the gains.

The Spanish LAB and LAS scores were, of course, higher than those for the English. Gains appeared in each year but since so many had very high beginning scores, analysis of the changes gave significance but the practical value of that could not be determined. As with the English, the Spanish comparisons from kindergarten to first grade showed only moderate correlation, 67, with the high beginning scores of many influencing that statistic. Too, the lowest quartile in the Spanish scores did not increase commensurate with the English. It must be pointed out in this regard that the bilingual kindergartens had a higher proportion of weaker implementation than any other grade. The instructional variables could not be directly utilized as intervening variables in the analyses of the LAB and LAS scores but the results from the other grades would suggest that the weaknesses were apparently involved.

Evidence of student progress in language proficiency was also available from other interpretations of the LAB and LAS scores. In addition to the numerical changes, students moved from the non-English proficient to limited and to fluent. While these are not categories in the instruments, they are commonly used to give a general classification. All of the students classified in the non-proficient category the first year were at limited the second. That, in itself, is an important upward movement. Of those that were listed as limited the first year, both measurement and teacher judgment placed a sizeable number into the fluent categories. "Limited" is, of course, a broad range thus two years would not see all of them to move to fluent. That many did, however, was an attribute of the program and the instruction.

In summary, the changes in English proficiency scores and classifications were greater than might be anticipated from the reduced implementation the first year and the rather severe instructional weaknesses in some of the kindergartens, particularly when coupled with a few other weaker instructional patterns. A large portion of the progress was without doubt, however, due to the unusually large percentage of teachers in the other grades that scored very well in the observations, and notably those with high scores in the intensity of the language instruction and in the utilization of the time in learning. These high quality measures had substantial influences on the language proficiency of the students as well as their achievement scores.

English Achievement

The accompanying statistics on the English achievement scores are accurate and valid for the students that were included in them. It is important to remember that not every student in the Title VII project is represented by the necessary scores. As pointed out earlier, some were not present when the tests were given, a few did not complete all of every section, and still others had left the district. As a generality, it must be recognized that these statistics will be somewhat higher than those emanating from McGraw-Hill because of the omissions of some and the inclusion of other students.

It was also noted earlier in this report that there were some intervening factors that could not all be separated from each other insofar as their influence on the scores was concerned. The researcher, therefore, suggested that even though the computations gave statistical significance, any difference of less than two T score points should be ignored. In other words, the two scores should be considered as "not different." The narrative will point some of the cases out as examples of increases in which little confidence can be placed.

SPECIAL NOTE: Before studying Table 5 on the following page, be sure to read the notes at the foot of the table; the two halves of the table are arranged differently. Also remember that there are many more students in the top half, All Students Tested, than in the bottom half, Tracked Students Only.

The contrasts reported in the annual report for 1980-1981, by grade, showed few significant differences. Almost all the students increased their raw scores but that growth was commensurate with what was expected in any program; no special effects for the program were perceivable by grade. There were some effects of the alternate S and T forms of the CTBS, notably in fifth and seventh grades. It must also be recalled that the measurement period and program time were short in 1980-1981. Few differences were expected by grade and, as a generality, none of any consequence appeared other than for the test forms.

The first noticeable characteristic of the data in Table 5 is the large number of statistically significant differences. *(The significance is on the contrast between fall 1980 and spring 1982; spring 1981 is involved only for the first grade.)* Remember that when a normal program is offered and the students work more or less at their accustomed pace and attention, T scores should not change appreciably across time; that is one of the functions of normalization via T scores since it takes their normal growth into account. Their raw scores increase but the normalized T scores do not. Nevertheless, except for some cases in fifth, sixth, seventh, and eighth grades (partially due to the influence of the CTBS/T in comparison to CTBS/S, and partially due to the severely limited English proficiency of a higher proportion of the students), statistically significant gains were made. This is an important finding - it indicates that the program did make a

Table 5: Mean T Scores on English Achievement Subtests for All Students Tested, Tracked Students, by Grade for Fall 1980, Spring 1981, Spring 1982 and Significance of Differences *(See notes at foot before reading table.)*

Grade	Reading 1980	1981	1982	Signi-ficance	Language 1980	1981	1982	Signi-ficance	Mathematics 1980	1981	1982	Signi-ficance
					A L L S T U D E N T S T E S T E D							
First	*	41.8	44.8	.01	*	40.7	44.2	.01	*	43.2	46.1	.005
Second	42.1	43.3	45.4	.005	42.8	46.3	47.3	.001	44.9	49.1	50.3	.001
Third	41.9	42.6	44.7	.01	40.7	44.1	44.4	.005	46.2	50.0	50.7	.005
Fourth	41.4	42.8	44.9	.01	41.4	43.4	45.3	.005	44.9	47.3	49.9	.001
Fifth	41.6	43.8	43.7	n.s.	41.3	43.8	44.0	.05	45.1	48.4	48.4	.01
Sixth	40.8	42.3	43.3	n.s.	40.3	42.9	43.2	n.s.	45.2	47.4	48.0	.05
Seventh	40.3	39.9	41.4	n.s.	39.6	40.8	41.1	n.s.	44.5	45.6	46.2	n.s.
Eighth	42.1	43.8	44.4	.05	40.5	43.3	43.4	.01	45.8	48.8	48.9	.01
					T R A C K E D S T U D N T S O N L Y							
First	*	41.8			*	40.7			*	43.2		
Second	42.1	43.3/46.3		.001	42.8	46.3/44.1		.01	44.9	49.1/47.4		.01
Third	41.9	42.6/47.1		.001	40.7	44.1/47.2		.001	44.9	47.3/51.0		.001
Fourth	41.4	42.8/45.2		.01	41.4	43.4/46.1		.005	44.9	47.3/48.8		.01
Fifth	41.6	43.8/44.4		.01	41.3	43.8/46.2		.005	45.1	48.4/49.0		.001
Sixth	40.8	42.3/46.0		.005	40.3	42.9/45.4		.01	45.2	47.4/51.2		.001
Seventh	40.3	39.9/45.3		.005	39.6	40.8/44.0		.05	44.5	45.6/48.1		n.s.
Eighth	42.1	43.8/43.2		.05	40.5	43.3/42.3		n.s.	45.8	48.8/46.2		n.s.
		/	*			/	*			/	*	

NOTE: In the first half of the table, All Students Tested, read across each set by grade; the 1982 score is for the 1982 first grade, not the followup of the 1981 group. On the second half, Tracked Students Only, read the first two scores across by grade, then for 1982, drop one line where the / symbol indicates the 1982 score of the 1981 group still enrolled and tested in 1982.

The level of statistical significance is always between the 1980 and the 1982 scores for all grades except first, which is a one year spread, 1981-1982.

* *Not tested in 1980, fall, and not tested or no scores available for spring 1982.*

difference. This finding is, in some ways, more important than any other in this report. Since kindergarten had no achievement scores, it is not included in the table. Some of its effects, however, can be perceived by examining the 1982 first grade scores, which were significantly higher. At least a part of the increase can be attributed to the combined influence of kindergarten and first grade program efforts. Note also that the gains are of a lower confidence level than most of the others; the lower implementation scores of several kindergarten teachers were probably involved.

The second half of the table, Tracked Students Only, is important for two reasons. The first is that for most grades, the students that remained across the two year period (and were tested in fall 1980 and spring 1982), the gains in the T scores were even greater than for the All Students Tested group. Two factors are involved:

1. Those students with greater exposure to the program would be expected to benefit more and they apparently did.
2. Some low scoring students, more than in relation to their total numbers, did not have both score points and therefore are not represented in the second half of the table.

Taking the second point first, there were of course many high scoring students absent from one of the two test points as well. As explained earlier, the quartiles by score were examined to determine the possible impact of the absence of some on the computed differences. In grades one through five, the probable difference attributable to the lost students in the four quartiles was estimated at .3 of a T score point. That difference would not change any that were listed as statistically significant although in two cases it would change the level of significance. In the top three grades, however, the difference was estimated at .7 of a T score point and that would still further decrease the number of differences that were statistically significant. That is to say, the upper grades lost more low scoring students than moderate or high scorers. For the most part, these students were in the program because they had severe difficulties. Too, they were arriving at an age when their work in the fields would encourage migrant families to take them on the trips. On the whole, then, the finding is not unanticipated and does not, of itself, denigrate the efforts of the program. They are simply facts of adolescent and migrant life for the most part.

In summary, the grade by grade examinations of the T scores reveal very positive findings for the program. Under ordinary conditions, the T scores would be the same across time and across grades (except for the upper grades) but they were not. The T scores increased when all students tested were examined, and they increased even more when only the tracked students were isolated. This finding is also a function of the implementation of the program, or perhaps mostly that, since a very high proportion of the instructors were rated high on the classroom observation measurements.

When whole groups of students approach the national (or test) norm, treatment seldom makes a difference in their scores - it is nearly impossible for them to do so unless implementation is carefully controlled. As would be expected, then, the fluent English proficient students did not change across time. (Table 6) They already represented a "normal" group and the distribution of their scores reflected that fact.

The limited English proficient students, on the other hand, did not represent a "normal" group insofar as their reading and language capabilities were concerned. That, too, is obvious in the changes across time - their scores were significantly greater for these two subtests. In the case of mathematics, they already were at a relatively high level when they began, not much below the national norm and although the 1982 score was up, it was not significantly so under the strict requirements placed on this measure.

A comparison between the 1982 scores for the fluent and limited proficient students is also displayed in another section of Table 6, showing them to be significantly different in reading and language. The .01 level, however, when compared to the .001 of the 1980 and 1981 measurement points, indicates a substantial improvement for the limited students.

The largest gains were for the non-English speaking group in all three subtests. They increased markedly across time and the .001 significance level stresses those gains. Note particularly that contrary to the fluent and limited groups, as their English proficiency increased, so did their mathematics.

That growth in reading and language was also emphasized in the differences between the limited and the non-English proficient groups in 1982; the statistical significance was even greater than between the limiteds and the fluents. The nons' progress in mathematics was so great across the two years that they had essentially caught up with the other two groups, thus the difference was not significant.

Table 6 also contains the comparison data between the migrant students and those termed regular. Notice that the migrants gained little in reading. They gained in language and mathematics but those gains were small enough that the level of significance was at the lowest acceptable point. The previous discussion about low scoring migrants absent in greater proportions should have affected the scores more positively but they did not present the differences that might have been expected.

The difference between the regular and migrant students in 1982 remained very high. Although the migrants had made some gains, they were no greater in proportion than those of the regular students, thus they remained widely separated in all three subtests.

Student characteristics, then, continued to play an important role in their achievement, just as they have in almost all detailed studies. Too, programs that increase English proficiency increase

Table 6: Mean T Scores and Significance Levels for English Achievement for Tracked Students Only: Fall 1980, Spring 1981, Spring 1982; by Fluency and Student Status

Categories	Reading			Sig.	Language			Sig.	Mathematics			Sig.
	1980	1981	1982		1980	1981	1982		1980	1981	1982	
Fluent	48.7	49.8	50.1	n.s.	49.4	50.1	50.0	n.s.	49.9	50.7	50.9	n.s.
Limited	42.0	43.6	46.6	.005	41.3	42.4	46.2	.001	46.2	46.9	48.3	n.s.
Non	35.3	37.6	41.9	.001	35.1	36.3	40.8	.001	42.2	43.2	48.2	.001
Regular	46.1	46.0	48.4	.05	44.8	45.1	47.2	.05	48.8	49.7	50.1	n.s.
Migrant	38.0	38.4	40.0	n.s.	36.9	40.2	42.4	.05	43.2	44.1	45.8	.05
C O M P A R I S O N S B E T W E E N G R O U P S												
Fluent and limited				.01				.01				n.s.
Limited and non				.005				.001				n.s.
Regular and migrant				.C01				.001				.005

NOTE: The significance levels between fluent and non-English speaking students were .001 for reading and language in 1982; there was no statistically significant difference for mathematics that year. In fall 1980 and spring 1981, the differences for all three subtests were significant at the .001 level.

The non-English speaking group was substantially reduced by spring 1982; some of that was due to the loss of scores of those promoted to ninth grade and some to students no longer present or not taking the tests.

increase achievement scores. The findings described by grades are borne out when the data are examined by English fluency; the program engendered substantial progress.

Analyses of different instructional practices in bilingual education have given uneven results. A practice will be shown to be vital to academic achievement in one study and not significant in another. Some of that problem is due to the definition of "bilingual program," as shown in the California evaluation. To assure that the present evaluation accounted for program and for the degree of its implementation, a wide variety of instructional practices were controlled through the classroom observations. The present phase of the evaluation was complicated for one major reason: some students were in highly rated implementation the first year and in less than desirable the second, and the reverse. Unfortunately, some experienced two years of mediocre implementation.

The 1981 implementation data showed a relatively small group of teachers rated rather low on most measures and a substantially large group rated quite high. That is, few were in the middle set of ratings. That dichotomy produced the substantive differences reported in the 1981 annual report.

In that report, four variables from the classroom measurements had significant effects on the achievement scores: reading activities, writing activities, learning time, and language structure. Of these, writing activities contributed most to score increases: 14+% in reading and language; reading activities was second with + 10%; learning time was third with about 8%; and language structure about 7%. English fluency and regular/migrant status contributed the remaining explained difference, very close to 25% for reading and language. All these characteristics contributed much less to mathematics; the total explained difference in reading and language was at just over 64% while at only 21% for mathematics.

The 1982 scores, when examined for that measurement point alone, gave almost exactly the same results for nearly two-thirds of the classrooms. The other one-third was enrolled in classes that were different for the two years, substantially so, or were in classes in which the instructor ratings were quite low both years. Again, mathematics was less affected than were reading and language.

The plethora of groupings that would result from the two years would make a table so cumbersone that it would be difficult to interpret. To obviate that problem, the computer was instructed to return to the numerical ratings (1 to 10) and sum them for the two years with the possibility then of a high of 20. The combinations were then grouped and the scores analyzed by them. The new high rating was thus 16-20, middle = 12-15, low was 11 and below.

Table 7 contains these results by instructional practice and in combination with each other, plus the significance of differences between each of the categories. The "middle" category contains almost exclusively combinations of high/low for the two years.

Table 7: T Score Means and Statistical Significance for Influential Instructional Variables across the Two Years*

Variable/Category/Combination	Reading T Score	Sig.	Language T Score	Sig.
High reading	47.8		47.4	
Middle reading	43.5	.001	42.2	.001
Low reading	36.6	.001	36.8	.001
High writing	48.3		47.9	
Middle writing	43.9	.005	44.1	.005
Low writing	35.2	.001	37.1	.001
High reading/writing				
Low reading/writing		.001		.001
High learning time	47.1		47.2	
Low learning time	39.9	.001	40.1	.001
High language structure	47.0		47.4	
Low language structure	41.2	.001	40.1	.001
High time/structure				
Low time/structure		.005		.001
High reading/writing/time				
Low reading/writing/time		.001		.001

** When a category or a variable was not associated with significant differences, it was omitted from the table.*

These same variables were examined by grade and there was little difference across grades except that the first grades with low reading/writing/time ratings suffered more than any other. That is to say, students who moved from a low first grade rating room to a second grade room of similar rating, advanced little in achievement except for mathematics. Fortunately for the program, those were few, thus the overall first/second grade T scores are similar to the others.

Although it had little influence on the achievement scores, it should be noted that few program sixth graders moved into the program seventh grade. The mostly went into all English classes; only a few were enrolled in the English as a Second Language program in the middle schools.

In essence, the instructional variables continued to influence the achievement as would be expected from the 1981 report findings. There were no substantive changes, just cumulative effects. Pupil/teacher interaction, important in so many studies, was apparently subsumed in the reading/writing and learning time here.

Spanish Achievement

The Spanish version of the CTBS achievement test was administered only to the students that had participated long enough in the Spanish reading program for it to have had some effects. Fewer than half the Title VII students, then, had scores in spring 1981 on any one of the subtests (CTBS/S Español has reading and mathematics subtests). More students took the test in spring 1982 but the tracked students, suffering from losses across time, were few in comparison to the English. These reduced numbers placed severe restrictions on the analyses that could be performed since combinations reduced some cell sizes below acceptable levels.

Table 8: Mean T Scores and Statistical Significance of Spanish Achievement for Tracked Students: 1981 - 1982 by Appriate Variables*

Variable/Category	Reading 1981	Reading 1982	Sig.	Math 1981	Math 1982	Sig.
Grades one-two	38.9	45.2	.001	37.8	44.3	.005
two-three	39.9	46.1	.001	38.8	45.1	.001
three-four	36.2	44.4	.001	38.2	44.9	.005
four-five	35.1	43.1	.001	39.6	47.2	.001
five-six	37.0	43.5	.005	40.0	45.6	.005
Grade comparisons			.05			n.s.
Spanish proficiency: high	45.6	53.2	.001	49.1	50.1	n.s.
medium	44.8	46.2	n.s.	46.3	46.9	n.s.
low	37.3	40.2	.01	38.3	42.1	.01
Status: regular	45.1	49.6	.005	47.2	49.3	.05
migrant	38.2	39.4	n.s.	39.4	39.4	n.s.
High reading activities	47.1	55.6	.001	47.6	50.3	.05
Low reading activities	34.3	35.6	n.s.	40.2	43.1	.05
High writing activities	47.4	56.3	.001	46.5	49.1	n.s.
Low writing activities	33.1	34.2	n.s.	37.2	39.1	n.s.
High learning time	47.1	54.2	.001	45.9	50.0	.01
Low learning time	33.2	34.8	n.s.	35.4	36.9	n.s.
High reading/writing/time Low reading/writing/time			.01			.05
High logicality	47.2	49.1	n.s.	45.3	49.1	.01
Low logicality	35.2	36.8	n.s.	34.6	34.5	n.s.

** Variables and categories with no influence omitted.*

The Spanish and English reading scores, by grade and by all the students, correlated little more than chance in 1981. In 1982, however, the Pearson's R was calculated at 88, a very substantial relationship. The mathematics scores were moderately correlated between the Spanish and English in 1981; that was raised somewhat in 1982 but was still at the moderate level.

All of the grades for which there were sufficient scores for the analyses raised significantly from 1981 to 1982 for both reading and mathematics when taken in the Spanish test. Since the Spanish test has only one form, the problems between the T and S forms in English did not arise. The significance levels were therefore higher in Spanish than in English. The only significant difference among the grades was between the highest and the lowest, in the reading subtest; no other differences existed.

Spanish proficiency had less influence on the Spanish achievement scores than did the English on English scores. The selectivity of the students that took the Spanish test was probably related to this finding. Contrary to the English, those with high proficiency in Spanish gained the most in the Spanish reading scores, a highly significant gain. Apparently those that were very fluent (the tests did not measure reading proficiency) had less to learn and could relate their oral/aural skills more effectively to the reading tasks. Although the low Spanish fluent students also rose in their scores, the significance level was lower. Little effect was observable in the mathematics scores. The comparisons of high to low Spanish proficiency, however, was markedly different in the reading and the mathematics scores; the students in the high bracket were far above those in the low.

The regular status students gained significantly in Spanish reading and mathematics. The migrant students, however, did not gain significantly. The difference between the regular and migrant students was significantly different in both reading and mathematics. The Spanish scores were as affected as were the English. Again, the loss of many low scoring migrant students did not help their scores as was postulated.

High reading activities aided the Spanish reading scores enormously and had some influence on mathematics. Students experiencing low reading activities did not gain in Spanish reading but some gain was registered in mathematics.

High writing activities aided only the reading score; mathematics was not improved. The difference between the high and low reading activity students was significant for both subtests.

Learning time, when at a high proportion, substantially aided the subtest scores across time. Time was not enough, however, to help those in low proportion time rooms; they did not advance significantly. The difference between high and low learning time proportions was highly significant for both Spanish reading and mathematics and the difference was greater than for the English measure. Since Spanish activities were less in time than in English, variations in learning time were important.

The variability in some of the instructional measures was reflected in the significance of the gains when several variables were examined in concert. High reading/writing/learning time classes produced significantly higher gains than low but the difference in the statistical level was less.

One other variable showed significance in the Spanish score examinations: logicality of presentation. A statistical difference was present only for high logicality and only for mathematics when viewed across the two years. The difference between high and low, however, was highly significant for reading and mathematics; the latter showed the greatest T score spread of any of the comparisons in any language. It is also important to note that logicality, when combined with the other variables, did not produce useful findings. A part of this effect was that some teachers/aides who were otherwise high in the instructional ratings were not as logical as some others, especially in their presentations in mathematics, and this was particularly true when that subject was taught in Spanish. Much of the difficulty was due to aides who otherwise were quite effective in their work but apparently did not have a good grasp of mathematics.

A summary of Spanish achievement would have to begin by emphasizing that it was not greatly different from English achievement. That should not be surprising since the "good" teachers were generally "good" in whichever language they used. Similarly, the aides in "good" teachers' rooms worked well for the most part.

One important difference is reiterated between the English and Spanish - highly fluent Spanish speakers generally gained more, and it was more likely to be significant, than did those in the lower categories of proficiency. It is likely that two factors are involved: highly proficient students needed less instruction to rise quickly and the difference in time (English was taught more) affected them less than it did those with relatively low abilities in Spanish. Low proficient English speakers were aided a great deal in that language; that was not done in the same proportion for Spanish.

It must also be noted that by and large, the gains across time were not as impressive as were those in English. The reduced exposure to Spanish instruction is probably the key to that difference. One other effect is important; recall the low correlation between English and Spanish the first year but a substantial relationship the second year. The effects of biliteracy were apparently operating the second year, an effect that was demonstrated in the California study. In a third year, the differences might have been even more evident.

SUMMARY AND CONCLUSIONS

The Redwood City School District ESEA Title VII Bilingual Education Program, Project LEARN, began the first of its three years in fall 1980 in the Taft, Selby Lane, Garfield, and Fair Oaks elementary schools, and in the Hoover and McKinley junior high schools. Instruction was offered in English and Spanish for the speakers of the latter language through an integrated approach to take advantage of students' strengths and help them progress as rapidly as possible in concept development while they acquired English proficiency. A uniform curriculum was instituted in each language so that transition and transfers would be facilitated.

More than one thousand students were enrolled in the Title VII classrooms; almost 40% of the students was fluent English speaking to provide sufficient peer modeling in the elementary classrooms. In the junior high program, the students participated part of each day in the regular English program and the rest in specialized English as a Second Language classes. Non-Spanish speaking pupils were aided through English as a Second Language instruction and individual assistance.

The general instructional pattern included a certified teacher, many of whom were bilingual, and a teacher aide; the latter were nearly all fully literate in Spanish and English. Teachers and aides with special training in English as a Second Language conducted those classes. Two resource teachers were provided to help the teachers with their plans and implementation, securing materials, and the language proficiency and achievement testing. The project director worked closely with other district administrators and the principals of the schools in the management of the program.

The limited English proficiency students were identified first through the Home Language Survey and those who spoke Spanish were administered the English and Spanish version of the LAB in 1980 and the LAS in 1981; the speakers of other languages were given only the English portion of the test. Those classified as limited and non-English speaking were enrolled in the program unless the parents refused. The fluent English speaking pupils in the classrooms were recruited from among the fully bilingual students who wanted to increase their proficiency in Spanish and other fluent English speakers to provide a non-segregated environment. Some of the students in the Title VII classrooms participated only in the English portion of the program in those rooms.

The Comprehensive Tests of Basic Skills English examinations were used to assess the progress of the grades one through eight pupils who read enough of that language to be able to score meaningfully in it. Spanish speaking students in the Spanish reading program were also administered the Spanish version of the tests. Two forms of the examination were used in English, forms S and T. Only form S was used in Spanish. All students with spring 1980 test scores were included in a one year gain calculation with their spring 1981 scores. Kindergarten and the first grade in fall 1980 were given only the Language Assessment Battery tests and the scores, as well as the classifications, were utilized to make a preliminary assessment of their progress.

The evaluation was designed to provide internal information through the project administration and the regular school procedures. The external evaluation was contracted to an independent researcher. That evaluator furnished formative

information through interim reports on the baseline data collected in the fall and the classroom observations in the spring; the summative information is supplied via this annual and longitudinal report. Conferences with the project director and with the school principals throughout the year gave timely information for interim adjustments.

The assessment of pupil academic progress was designed as a time series through the three years with one year interval assessments; only two years of the program were funded. Cohort comparison students, the fluent English speakers in each room, to minimize program distractions. Raw achievement scores were converted to standard T scores, computerized, and the results calculated via frequency distributions, breakdowns, analyses of variance, regressions, and partial correlations.

The composition of the Title VII program students in both years, 1980-1981 and 1981-1982 changed little. The third grade increased about 40% the second year due mostly to promotions from the larger second grade and the middle school English as a Second Language students decreased somewhat, attributed primarily to the increased offerings at sixth grade the previous year, resulting in fewer with severe English limitations. The Spanish speaking students decreased slightly the second year and those fluent in English increased proportionately. The percentages of regular and migrant students remained about equal. Overall, fewer students had data the second year, due to the requirements of the three data points; some had left the district or did not take the tests; the loss was about 11%.

The instructional practices data from the classroom observations showed a high proportion of the teachers and aides to function well both years. A few were rated low, especially in the language arts area; that group was smaller the second year than the first. Each student was tracked across the two years and the quality of the instructional practices each experienced was a combination of the ratings for the two years. The new ratings were then divided into high, middle, and low implementation groups as variables for the examinations of the achievement scores. Some variables that have differentiated among the scores in other studies were so uniformly high in the Redwood City program that they did not discriminate in this evaluation: pupil-teacher interaction, separation of the two languages, teacher and aide fluency in English and Spanish, and teaching all four language arts skills rather than just oral/aural. Much of the program success was due to these high performance qualities. Those variables that did differentiate are treated in conjunction with the achievement scores.

Because of changes in state regulations, the measurement of English and Spanish proficiency changed from the *Language Assessment Battery (LAB)* the first year to the *Language Assessment Scales (LAS)* the second. That change made direct calculation of score changes impossible since they were quite different. In general categories - fluent, limited, and non - the changes across the two years were about the same for kindergarten and first grade, and as would be expected, greater the second year due to more program exposure.

Achievement in English reading, language, and mathematics was calculated from those subtests in the *Comprehensive Tests of Basic Skills, forms S and T*; the two forms were used to test alternate grades after primary. Two examinations were done to determine if there were important differences between two groups: all students tested and tracked students only. First, the tracked students generally scored higher, significantly at some grades, than the other group. Second, the longitudinal analyses across the three measurement points - fall 1980, spring 1981, spring 1982 - showed more significant gains for the tracked students. For those reasons, all further analyses utilized only the tracked students as they appeared more representative as products of the program than the all students tested group, which contained many recent arrivals.

The most significant gains were registered by the first and second grades in reading and language; second, fifth, and sixth gained most in mathematics. The elementary students' T scores ranged from 44 to 47 in reading and language, just below the mean T score of 50, a very admirable achievement for student groups containing a high proportion of limited and non-English speakers. In mathematics, they ranged from 47 to 51, by grade, unusually high. The middle school students were chosen for the program because they were severely limited in English so their scores were lower but still showed a great deal of progress: reading 43, language 42, and mathematics 46. The T form of CTBS lowered the scores of the students in fifth and seventh grade but that was estimated at less than a T score point.

The T score normalization procedure takes the usual growth of students into account therefore they are expected to stay about equal across the years unless unusual programmatic intervention is done. The fluent English students, as would be expected, showed a mean of near 50 and their gains across the three time points were those anticipated. Limited English proficient students, however, gained significantly in reading and language; non-English speakers at the beginning of the program gained significantly in those and in mathematics. Their acquisition of English had materially aided their progress. The migrant students, apparently because they attend instruction less, scored significantly lower than the regular students every year. The difference was less in spring 1982 than previously, indicating substantial progress on their part even though they did not reach the level of the other students.

Highly intensive reading and writing activities in the classes were associated with very high T scores, approaching the norm. The instructors reaching that level caused the comparison with the low group to be highly significant; the two were separated by 11 points in reading and 13 in language. The proportion of the time spent in learning activities, as opposed to others, also resulted in large differences between the high and low group. High and low language structure in the instruction resulted much the same. The combination of reading/writing/time accounted for much of the difference between the student scores in the high and low quality instruction. Mathematics was much less affected by the previously described factors, apparently because they were designed mostly for

language arts. Mathematics increased substantially but that gain was associated with increased English fluency, a secondary factor of the program in that case.

Spanish achievement was measured via the reading and mathematics subtests in the *Comprehensive Tests of Basic Skills - Español, form S* (the T form does not exist). Only two measurement points were available for Spanish, spring 1981 and spring 1982. As would be expected, then, the gains were less than for the English since only one year was involved in the calculation. The final reading T scores ranged from 43 to 46 for the elementary grades; mathematics scores varied from 44 to 47. Both were very positive for a group that had little or no Spanish instruction previously. Contrary to the English results, the fluent Spanish group gained significantly between the two measurement points in reading, a function of moving them from fluent to literate in the language. Limited Spanish proficient students did not gain significantly in reading or mathematics; apparently their needs for improvement in the four language arts skills placed them at a disadvantage that had not yet been overcome. The low proficiency students gained significantly in both reading and mathematics during the year; almost all of them could do no reading or writing when they began the program, thus any gains loomed large. The regular students' scores were significantly higher than those for the migrants, very much as had occurred in English. They did not gain statistically in reading but they did in mathematics.

Students in classes with high Spanish reading intensity gained significantly across time, in reading, and their scores were statistically higher than those in the low intensity classes in both reading and mathematics. Both groups gained in mathematics. High writing, compared to low writing, also produced significantly different mean T scores for the two groups and in both reading and mathematics. High writing activities produced a gain during the year only in reading. Those in classes in which a high proportion of time was spent in learning activities gained significantly in both Spanish reading and mathematics; the low group did not. The learning time differentials also were associated with the high group being significantly higher than those in the low learning time classes. The combination of high reading/writing/time accounted for a very large proportion of the differences between the two groups.

Contrary to the English achievement results, when viewed via the instructional variables, logicality produced a substantial result in Spanish mathematics. The gain for the high logicality group was significant and the difference between the high and low groups was not only significant but amounted to almost 15 T score points. It was postulated that since the total amount of time spent on Spanish mathematics was sharply reduced when compared to the English, that logicality of presentation was much more important as a function of learning.

In spring 1981, the scores of the students with both English and Spanish achievement results showed a low moderate correlation

between the two. In spring 1982, however, the correlation rose to a very substantial level, indicating that the students had become approximately biliterate for their grade. That finding takes on particular importance when viewed with other recent research that found biliteracy significantly related to high achievement in either language. The Redwood City program's emphasis on biliteracy was producing the desired results.

Viewed as a whole, the students in the ESEA Title VII program in the Redwood City schools began at about the level that would be expected, with the limited and non-English speaking students at a relatively low level when compared to those who spoke English fluently. By the end of the first measurement period, somewhat less than an academic year because of late funding, some gains had been registered. Those gains were greatly increased by the last measurement period, spring 1982, and the students had gained a great deal in both English and Spanish proficiency. Their gains were large for English and Spanish reading, moderate for English language, and excellent in mathematics. The program was judged to be producing the results intended for the limited and non-English speaking students.

The district and the project administrations had spent a great deal of effort in selecting appropriate instructions, both teachers and aides, in inservice training, materials for the classes, and in supervision and resource teacher assistance. A high proportion of the instructors was measured as implementing a very high degree of instructional skills in the classes. A few were rated moderate, and unfortunately, a small group demonstrated inadequate skills. Some changes in instructors were made after the findings of the first year but various factors apparently prohibited making all the personnel changes that were needed. Consequently, statistically different achievement scores in English and Spanish continued between highly effective and those at the low end continued for the students in their classes. The learning of some students was sharply curtailed in the rooms with inadequate instruction; still further changes and/or inservice training should be considered for the future.

In conclusion, despite a high proportion of migrant students in the project and some less than effective teaching by a few instructors, the Redwood City ESEA Title VII bilingual education program, LEARN, demonstrated unusually positive results. The limited English proficient students approached the national norm in English reading, language, and mathematics; they also were near the norm in Spanish reading and mathematics. The progress was substantial and more than is generally encountered in a large program. The district, project, principals, teachers, and aides are congratulated for that progress.

APPENDIX A

Data Control Guides

STUDENT LIST FOR SAMPLE CLASSES

The names on this list will be kept in strictest confidence. The list will be used only to prepare the identification numbers on the data lists and for referral when the achievement scores are being obtained. The names will not be associated in the computerization or in the reports with any student, teacher, aide, or administrator.

Surname	First	Middle or Initial	Di 1,2	Sc 3,4	Pr 5,6	Gr 7,8	Cl 9,10	Id 11,12	Ty 13
								01	1
								02	1
								03	1
								04	1
								05	1
								06	1
								07	1
								08	1
								09	1
								10	1
								11	1
								12	1
								13	1
								14	1
								15	1
								16	1
								17	1
								18	1

SAMPLE DATA RECORDING SHEET: ACHIEVEMENT SPRING 1978

Di 1,2	Sc 3,4	Pr 5,6	Gr 7,8	Cl 9,10	Id 11,12	TY 13	Pl 14,15	EP 16	SE 17	SS 18	Ø 19	8T 20	8F 21	RRS 22-4	LRS 25-7	MRS 28-30	TBRS 31-3
					01	1											
					02	1											
					03	1											
					04	1											
					05	1											
					06	1											
					07	1											
					08	1											
					09	1											
					10	1											
					11	1											
					12	1											
					13	1											
					14	1											
					15	1											
					16	1											
					17	1											
					18	1											

APPENDIX B

Classroom Observation Guide

Dis___Sch___Pr___Gr_____Cl___ID____ Obs_____Date_____

OBSERVATION INSTRUMENT

Segment No. 1 2 3 4 5 6 SegBeg_____(InterBeg____InterEnd____)SegEnd_____ Time___

PART A

1. The subject matter for this segment was:

Tchr	NA
Aide	NA

2. % of segment actually spent on subject:

Tchr	NA 1 2 3 4 5 6 7 8 9 10
Aide	NA 1 2 3 4 5 6 7 8 9 10
	NA 1 2 3 4 5 6 7 8 9 10

3. Number of students:

w/tchr	w/aide	seat work	out	no/work	total

4. Major direction of instruction was toward (check):

	Individual	Small Group	Large Gp/Class	
Tchr				NA
Aide				NA

5. % of students actually engaged in learning activity in this segment:

Tchr	NA 1 2 3 4 5 6 7 8 9 10
Aide	NA 1 2 3 4 5 6 7 8 9 10
Other	NA 1 2 3 4 5 6 7 8 9 10
	NA 1 2 3 4 5 6 7 8 9 10

6. % of students in direct learning interaction with instructors:

Tchr	NA 1 2 3 4 5 6 7 8 9 10
Aide	NA 1 2 3 4 5 6 7 8 9 10
Other	NA 1 2 3 4 5 6 7 8 9 10
	NA 1 2 3 4 5 6 7 8 9 10

7. This segment primarily was:

Language arts	Tchr	Aide	Subject Matter	Tchr	Aide
ESL language arts	OARW	OARW	ESL/		
Bilingual lang. arts	OARW	OARW	Bil/		
Reg.Eng.lang. arts	OARW	OARW	RegEng/		
Primary lang. arts	OARW	OARW	PriLang/		

8. % of segment languages used:

	Tchr	Aide
English	NA 1 2 3 4 5 6 7 8 9 10	NA 1 2 3 4 5 6 7 8 9 10
Other	NA 1 2 3 4 5 6 7 8 9 10	NA 1 2 3 4 5 6 7 8 9 10
Other	NA 1 2 3 4 5 6 7 8 9 10	NA 1 2 3 4 5 6 7 8 9 10

9. If student language usage was significantly different from above, describe:

10. If more than one language was used, were they in:

Totally structured format	10	Half structured/half casual	5
	9		4
Mostly structured/20% casual	8		3
	7	Mostly casual/about 20% structured	2
	6	No apparent structure	1

11. If more than one language was used, were they mixed in the same sentence? Yes__ No__

12. English language proficiency:

Tchr	NA 1 2 3 4 5 6 7 8 9 10
Aide	NA 1 2 3 4 5 6 7 8 9 10
Students	NA 1 2 3 4 5 6 7 8 9 10

Note important errors/variations:

Tchr

Aide

Students

13. Primary language proficiency:

Tchr	NA 1 2 3 4 5 6 7 8 9 10
Aide	NA 1 2 3 4 5 6 7 8 9 10
Students	NA 1 2 3 4 5 6 7 8 9 10

Note important errors/variations:

Tchr

Aide

Students

14. Briefly describe the classroom management:

_____

_____

_____ ( )

15. Briefly describe the specific instructor English modeling activities:

Pronunciation: _____

_____

_____

_____ ( )

Enunciation: _____

_____

_____ ( )

Syntax: _____

_____

_____ ( )

16. Briefly describe the specific instructor primary language modeling activities:

Pronunciation: _____

_____

_____

_____ ( )

Enunciation: _____

_____

_____

_____ ( )

Syntax: _____

_____

_____

_____ ( )

Dis___Sch___Pr___Gr____Cl___ID____ Obs_____Date_____

PART B

(Entire Observation Period)

17. Check the one best descriptor if this observation or any part of it used any primary language:

Facilitation: brief translations of words or sentences	
Preview-review	
Simultaneous/concurrent	
Alternate languages within the day	
Alternate language by day or unit (ask teacher)	
Other	
Other	
	NA

18. Check any of the following used during the observation period:

	English	Primary Language
a. Drill		
Word attack/phonic/phonemic/syllable		
Word recognition/pronunciation		
Word substitution		
Vocabulary (with meanings)		
Phrases/sentences per se		
Syntactic (verb forms, pronouns, plurals, neg/pos)		
Other:		
Other:		
	NA	NA
b. Reading		
Individual aloud		
Groups aloud		
Choral		
Silent		
Other		
Other		
	NA	NA

c. Writing

Words only		
Sentences or longer		
Other		
Other		
	NA	NA

19. Describe the presentations of the subject subject matter:

Logicality	
Clearness	
Concrete to abstract	
Demonstration/action work	

PART C

(Questions for the Teacher)

20. In so far as you know, were most of the LES/NES students in this class taught:*

a. oral/aural primary language first _____

oral/aural English first _____

both at the same time _____

b. primary language reading first _____

English reading first _____

both at the same time _____

21. How was this observation period different from the usual class?

Not different _____ If different, describe: _____

22. What particular problems do you find in teaching this group of students:

No particular problems _____

Describe problems: _____

*This question was subsequently modified when substantial errors were encountered in the teacher replies; the students were asked individually and the replies coded onto their individual forms.

PART D

OBSERVER: Examine your class list and the students' characteristics. Comment on what you saw in light of the characteristics/situation.

Time total observation period began _____

Time total observation period ended _____

Elapsed time ____ minutes

Non-learning periods: (activity)	(minutes)
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
Total	_____minutes

Elapsed time less non-learning time _____minutes

Instructions for the Classroom Observation Instrument

Observer: Initial plainly in case there are questions that need answers later. Mark the date each segment was completed; mark the date for Part B when the entire observations was completed.

Use the same codes at the upper left as applied to the teacher or aide for the Joint Teacher Aide Questionnaire. If any changes have occurred, mark the same codes but add a narrative page explaining the change. Each of the items must be coded and each is a two digit code.

Circle the segment number in the sequence.

Enter the beginning and ending hour and minute; subtract to obtain the time. Use the intervening blanks only when the segment is interrupted beyond usual class occurrences. Subtract that time from the sequence. Calculate the total time elapsed for the segment. Each should be 10 minutes unless logicality demands less.

1. Enter a descriptive title for the subject matter the teacher and aide taught; mark NA if one of them did not teach. Include individual assistance as teaching.

2. All activities, including silent work, count in percent of time of segment used in teaching the subject. Any other activity is to be subtracted from the time. Calculate for the teacher and the aide if both are teaching (they need not be teaching the same subject). Calculate the combined percentage from the two as an average according to students involved.

3. Count the number of students from the beginning of the observation period for the total; count those for each segment by the categories. Add in students that return from out of the room during the segment. The sole purpose of this item is to help you calculate item 5.

4. Check the major direction of the teacher and the aide if either or both is teaching during any part of the segment.

5. The percentage for teacher, aide, and other (if needed, for example, work groups receiving no instruction from either the teacher or the aide, a parent volunteer, or other instructional grouping) that may occur during the segment, separately. Actually count the students; they may be interacting or silently participating. Reduce the percentage from the number of students that do no work, who do not pay attention, or who otherwise are not actually engaged in learning. Calculate the combined percentage as an average according to number of students.

6. Follow the same procedures for 6 as for 5 except in this case the student must be in some kind of direct interaction with the teacher, the aide, or some other instructional grouping. While the interaction need not be verbal, you must observe some type of interaction: going to the board to work a problem, nodding agreement, raising the hand to recite, turning to the page the teacher requests.

7. If the segment is a language arts subject, or if the teacher or aide incorporates language arts instruction within another subject, circle the one or more initials that apply: O=oral, A=aural, R=reading, W=writing. Remember that instruction about one of these, as well as students practicing, should be recorded. The right hand is for non-language arts subjects; enter the subject after the appropriate classification: ESL = English as a second language, Bil = bilingual, RegEng = regular English instruction, PriLang = instruction of the subject in the primary language. Check separately for teacher and aide. Note that even though a subject is being taught, language arts skills or knowledge may also be imparted, thus there may be coding on both sides.

8. Calculate the percentage of the languages used during the segment in the lesson and classroom management combined. Be sure to enter the name of the language after "other."

9. Describe in words any significantly different student usage from that of the teacher and/or aide.

10. Calculate the structured/casual proportions of the use of the two or more languages in combination. Mark NA if only one language was used.

11. Three or more mixed sentences qualifies for "yes." Remember that a translation, or use of a work in explanation, does not count as mixing, e.g., "The word is white, blanco in Spanish."

12. Enter evidence during the segment in the second portion, "Note important errors/variations:" Remember that accents and regional speech patterns, so long as they do not detract from the students' comprehension (not yours), do not enter into proficiency. Incorrect words, pronunciations, enunciation, grammar should be noted and must reduce the proficiency. Count words on the board or on materials used with the class. Errors during modeling are more severe than during regular speech. Errors with non-English speakers are more damaging than with those that are in the upper range of limited English speaking.

13. The procedures for the primary language are the same as for English in 12. Don't allow your personal perference in vocabulary to influence the calculations so long as they are explained or the students understand without explanation.

14. Use a few words to describe the classroom management as it relates to discipline, student movement; note detractions from learning if they occur. Rate 1-10 as with proficiency.

15. Note what the instructor specifically does for each of the categories to help the pupils learn. Note mistakes in these if they occur. At the right hand side of the last line for each category, calculate NA, 1 to 10, as with proficiency, for the modeling specifically carried out.

16. Same as 15 except the notations and calculations are for the primary language.

PARTS B, C, AND D ARE CALCULATED AFTER ALL THE SEGMENTS HAVE BEEN COMPLETED

17. Check only one. Remember this is your judgment, not that of the teacher, even though you must ask the teacher about events on other periods or days.

18. Check any or all in each category if they were used directly and pointedly during the observation period. Remember that they must be actual teaching activities, not incidental occurrences. Check for English and the primary language.

19. Use a few words to indicate the categories requested. In the blank at the right, mark NA or 0 to 10 according to the performance.

20. Check only one category in a and one in b. *(See change on p. 132.)*

21. Be brief but give the important points. If the teacher describes the day as very different from the usual, return and complete another observation. Mark this one, at the top of the first page, as the first observation and the repetition as the second. Attach a brief narrative page explaining the repetition.

22. Complete as described by the teacher.

PART D: Examine the student characteristics on your student characteristic section of the achievement data form. Consider the number of limited and non-English speaking students, the number of students in the class; note if the class is made up of more than one primary language. Then describe your impressions of the performance.

The time calculations in Part D include ALL the time from the beginning of your first observation segment until you have completed the forms and are ready to leave the class. The non-learning activities may be perfectly legitimate; going to the bathroom,

getting a drink, relaxation time in which no instruction is given, group transitions, recess.

IN ANY CASE IN WHICH THERE IS AN EVENT OR SERIES OF EVENTS THAT IS UNUSUAL, OVERT CONFLICT, PERSONALITY CHARACTERISTIC, OR ANY OTHER ITEM THAT SHOULD BE NOTED, ADD A NARRATIVE PAGE AND NOTE IT ON THE FRONT OF THE FIRST SEGMENT FORM. IF THESE APPEAR TO BE SO SEVERE THAT THEY INTERFERE SIGNIFICANTLY WITH THE LEARNING, MAKE THAT NOTATION. SOME OBSERVATIONS MAY NEED TO BE DELETED FROM THE SET FOR A PROGRAM IF THEY ARE WIDELY DIFFERENT FROM THE OTHERS. IF YOU BELIEVE AN OBSERVATION SHOULD BE DELETED, RECOMMEND THAT BUT INCLUDE THE FORMS IN THE PACKET. You may not delete an observation, only recommend it. Thus, be sure that your explanation is complete and clear. No action will be taken without consulting you. In case you decide to repeat an observation, turn in both forms. If the second is significantly different, note that fact in your narrative.

APPENDIX C

Vitae of the Principal Evaluator

DR. EARL JONES

Dr. Jones, a senior full time DA staff member, has extensive experience in the implementation and evaluation of educational programs with a highly specialized expertise in measuring educational change. Substantively, he has expertise in bilingual-multicultural education, rural education, and agricultural extension work. He has been an educator, consultant, educational administrator, and trainer both in the U.S. and Latin America.

Dr. Jones just concluded the largest longitudinal bilingual study so far: an "Evaluation of California's Education Services to Limited and non-English Speaking Students" for the California State Legislature. The evaluation is intended to supply policy and program relevant information regarding the educational services provided to limited and non-English speaking students by California school districts and the related services. Multistage, purposive samples of several levels in the educational system were required. Respondents include teachers, aides, LES/NES program administrators and other staff, members of the central administration of the school and school district, parents, and students.

An important part of the California study is the identification "distinctive" programs within the sample, the determination of their implementation characteristics, and if possible, the relationship of these to differential effectiveness (two years achievement and student/staff/community satisfaction). The identification process will utilize both project declared characteristics and generally accepted implementation practices in self reporting questionnaires and in classroom observations. The basic instrumentation has been developed; further specification will depend on the results of a September 1979 survey of implementation.

Prior to this, Dr. Jones was the final Project Director and a Senior Research Specialist under DA's contract with the National Institute of Education to perform a longitudinal evaluation of a comprehensive experimental school program in the Edgewood School District of San Antonio, Texas. Dr. Jones was instrumental in designing a customized methodology and data collection instruments for the project. Through this, as well as prior experiences, he has developed the ability to design evaluation and monitoring systems for school programs of various types. It was during this project that he was instrumental in designing a unique model for measuring educational change that works. The model is discussed in the document entitled "The Explanation of Educational Change: Case Studies in the Edgewood School Plan," by Helen H. Bernal, Earl Jones, and R.A. Cervantes.

Dr. Jones has performed many types and degrees of instrument psychometric studies, both complex ones for data gathering and smaller formative and summative assessment guides. He has authored and co-authored publications resulting from formal psychometric studies of the Purdue Social Attitudes Scales for Primary Children, the Self-Concept and Motivation Inventory, the Edgewood Language Dominance

Assessment instrument, and the San Diego Observation Assessment Instrument. He is currently field testing instruments to study the implementation characteristics of bilingual education projects in California.

Dr. Jones has more than a decade of experience in bilingual education. He served as a consultant to Paraguay when that country instituted Guarani-Spanish bilingual education. He taught general methodology, Spanish reading methods, and English reading methods for Texas A & M University, Incarnate Work College, and Antioch University, as well as innumerable workshops and other in-service programs during the past several years. He has served as the external evaluator for Title VII and other bilingual programs in the Texas districts of Edgewood, La Joya, Edcouch-Elsa, Elgin, Harlandale, San Diego, Ramirez, and McAllen. He is currently completing the three year study of a demonstration project in Edgewood and the third year of a longitudinal study of the Title VII Bilingual Training Program at East Texas State University. He is co-investigator in the evaluation of the San Diego State University National Training Resource Center.

Dr. Jones has extensive experience in instrument development and in the study of the psychometric properties of instruments. He has developed data gathering instruments for regular, innovative, and bilingual education, including classroom observation guides, opinionnaires, and questionnaires for a wide variety of audiences: school children, teachers, administrators, and parents; adult training programs such as migrant labor, health services clients, and senior citizen center clients; college faculty and students. Some of these have been in Spanish and Portuguese. One of his well known co-authored, standardized products is the Purdue Social Attitude Scales for Primary Children, Spanish version.

Prior to joining DA, Dr. Jones was a Higher Education Consultant for both the Mexican American Cultural Center in San Antonio, Texas, and Antioch University in Austin, Texas. As a part of that work, he helped design and implement the Child Development Associates bilingual/multicultural trainer model for Texas. He subsequently directed the first Masters level training. (He currently participates in that training in the Development Associates Preschool Bilingual Center in San Francisco.) In La Joya I.S.D., he developed a series of teacher training sessions for K-6th grade staff with a focus on language arts and bilingual education. For the East Texas State University he continues to provide evaluation services as to the effectiveness of their elementary bilingual teacher training program. In McAllen I.S.P., he has provided an in-service teacher training program and an evaluation of the bilingual curriculum implementation process. As the third party evaluator for the Edgewood Title II Bilingual Demonstration Project, he has designed the evaluation instruments and monitors the implementation process.

Dr. Earl Jones

From 1971-1972, Dr. Jones was President of the Incarnate Work College in Austin, Texas. For the three years preceding this, he was professor of Education and Sociology at Texas A & M University where he was also Associate Dean for the College of Education. Other positions held at A & M were: Director, Programa de Educacion; Zone Institute for Teachers; Director, Peace Corps/A & M Project; and Director, Adult Basic Education Project.

From 1960 to 1966, Dr. Jones was an Associate Professor in Education and Sociology at several colleges and universities, including: University of California at Los Angeles; University of Chile at Santiago and Valparaiso; La Salle Foundation and Catholic University in Caracas, Venezuela; and the Inter-American Institute (Pan American Union) at Turrialba, Costa Rica. From 1956 to 1957, he was a vocational instructor at Arcata High School in Arcata, California; in Ontario, Oregon, he was a rural progress director for several radio stations.

Dr. Jones received his baccalaureate in agriculture and vocational education from Oregon State University, Corvallis, Oregon; the master of science in agricultural extension and sociology from the Inter-American Institute in Turrialba, Costa Rica; and completed his doctorate in social sciences and education from Montana State University, Boseman. He has also studied at Stanford University, University of Guadalajara, and the Royal Academy of Denmark. He is fluent in Spanish, Portuguese, and English and has some knowledge of several other languages.

Dr. Jones has published more than 40 books and monographs, as well as numerous articles. Among his early publications are:

A Study of a Rural Vocational Education Program in La Suita, Costa Rica
A Study of Rural Education Programs of Less than Secondary Level in the Americas
Bailadores: A Socioeconomic Study of a Rural District of Venezuela
Perspectives on Latin America (ed.)
Latin American Literature for Youth (ed.)
Introduction to Latin American Cultures (co-ed.)
An Instrumentation Study of the Purdue Social Attitude Scales for Primary Children (English and Spanish versions)
Social Attitudes of South Texas Primary Students
The Explanation of Educational Change: Case Studies (co-authored)

Dr. Jones is listed in many publications: Who's Who in the South and South-west, Outstanding Educators of the South, International Biography. He was selected for membership in Phi Kappa Phi and Alpha Beta honoraries, was a Pan American Fellow and a Kellogg Foundation fellow. He received a Standard Oil Foundation for Outstanding University Teaching and the Presidential Citation from the Government of Guatemala.

Dr. Jones is a member of the American Academy of Science, American Sociological Association, American Education Association, and the National Association of Bilingual Education. He served for two years as president of the Southwest Adult and Continuing Education Society, served three years on the Texas Governor's Commission on Bilingual and Multicultural Education, and a year on the President's Commission on Mexican American Affairs.

Dr. Jones is concurrently director of a Development Associates contract with Pacific Telephone Company for a large survey, senior advifor to the National Study of Instructional Components in Bilingual Education, team leader for the Evaluation of the Food for Peace Program in Ghana and Panama, external evaluator to the East Texas State University and Redwood City School District Title VII projects. His most recent publications include:

JONES, EARL & DAVIS, PETER. Study of the experimental schools program, Edgewood School District, San Antonio, Texas. 1977.

JONES, EARL. Evaluation of the Title VII program, Edcouch-Elsa Independent School District. 1976.

JONES, EARL. Evaluation of the Elgin Independent School District Title VII program. 1976.

JONES, EARL; ROBLES, ELIODORO & MUNOZ, ADOLFO. External evaluation of the San Diego State University Bilingual Education Service Center. 1979, 1980, 1981.

JONES, EARL. External evaluation of the East Texas State University Title VII Bilingual Education Program. 1976, 1977, 1978, 1979, 1980, 1981.

JONES, EARL; ROBLES, ELIODORO; MUNOZ, ADOLFO & BERKOWITZ, SARAH. Evaluation of California's education services to limited and non-English speaking students. 1980.

JONES, EARL; BERKOWITZ, SARAH & ROUSSEL, ROBERT. Evaluation of the Food for Peace program in Ghana. 1981.

All of the previous publications were issued by Development Associates from its San Francisco, California, office and its headquarters in Arlington, Virginia.